PUBLIC WORKS PROJECTS OF HAWAII

(No. 85-8)

UNIVERSITY OF MICHIGAN

MAR 2 1958

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HEARINGS

BEFORE THE

COMMITTEE ON PUBLIC WORKS
HOUSE OF REPRESENTATIVES

EIGHTY-FIFTH CONGRESS

FIRST SESSION

HONOLULU, OAHU, T. H.—NOVEMBER 11 AND 12, 1957
HILO, HAWAII, T. H.—NOVEMBER 13, 1957
WAILUKU, MAUI, T. H.—NOVEMBER 15, 1957
LIHUE, KAUAI, T. H.—NOVEMBER 18, 1957

Printed for the use of the Committee on Public Works

UNITED STATES
GOVERNMENT PRINTING OFFICE
20651 WASHINGTON : 1958

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PUBLIC WORKS PROJECTS OF HAWAII

MONDAY, NOVEMBER 11, 1957

HOUSE OF REPRESENTATIVES,
COMMITTEE ON PUBLIC WORKS,
SUBCOMMITTEE ON ROADS,
Honolulu, T. H.

The subcommittee met, pursuant to notice, at 9:15 a. m. in Iolani Palace, Hon. John C. Kluczynski, chairman, presiding.

Mr. KLUCZYNSKI. The meeting will come to order. As you know, we are a subcommittee of the Public Works Committee of the House of Representatives. We are here to look over projects and to listen to your problems. We are having a hearing from 9:15 to 11:30 a. m. on rivers, harbors, and beach erosion.

Now let the record show that I am John Kluczynski, of Illinois, acting chairman of this subcommittee. With us we have Congressman W. R. Hull of Missouri; Congressman Kenneth Gray of Illinois; Congressman Russell Mack of the State of Washington; Congressman Hubert Scudder of California; Congressman Emmet Byrne of Illinois; and Congressman Edwin Dooley of New York. Also present are: Mr. Robert McConnell, the minority counsel, and Mr. Marshall Gerber with the staff on flood control.

Will you open the hearing, Colonel Hatch, explaining all the information possible and present it to the committee.

TESTIMONY OF LT. COL McGLOCHLIN HATCH, DISTRICT ENGINEER, UNITED STATES ARMY DISTRICT, HONOLULU, T. H.

Lieutenant Colonel HATCH. Thank you, sir. Mr. Chairman and distinguished members of the committee, the first discussion will be on major harbors. It is my pleasure to present a general orientation, using maps as a basis for detailed presentations by local interests who will follow my orientation.

Though important in the islands, names such as Kahului, Nawiliwili, and Kawaihae are unfamiliar to you; and, for this reason, we have provided a map showing the principal islands of Kauai, Oahu, Maui, Molokai, and Hawaii.

On these islands there are five deepwater harbors. The harbor that you came into is Honolulu Harbor. There are two harbors on Kauia, Port Allen and Nawiliwili. On the island of Maui, there is only one, Kahului Harbor. On the Bid Island (the island of Hawaii), there is one, Hilo Harbor. A second harbor is now under construction at Kawaihae. At Kaunakakai, on Molokai, we are authorized to determine if the existing barge harbor should be enlarged to provide a

deepwater harbor. On Oahu, I understand, movements are afoot to establish harbors at Barbers Point and Kaneohe Bay.

May I have the first slide please. [Statement directed to the slide operator.] This chart is in the brochure if you want to refer to it. It shows the tonnage, for a 10-year period, of shipments between the islands, from the islands to the mainland and from the mainland to the islands. A study of the chart indicates several things. It indicates, first, the great dependence of the islands on ports and harbors and on export and import shipping. The airlines bring a small amount of supplies but the existence of the islands depends on large shipments To illustrate tonnage increases, shipments from Molokai to Oahu increased from 24,500 tons in 1946 to 217,000 tons in 1956, almost a tenfold increase. Shipments to the mainland from Oahu increased from 1,597,000 tons in 1946 to 2,152,000 tons in 1956. These figures also show the economic growth of the islands.

Mr. HULL. Colonel Hatch, what is shipped out of Hawaii principally?

Lieutenant Colonel HATCH. Sugar and pineapple; also small amounts of other products such as canec made from bagasse, coffee, and macadamia nut.

Mr. HULL. The military here consumes a lot of local products?

Lieutenant Colonel HATCH. That's true, sir.

Another thing that this chart shows is the central position that the port of Honolulu holds at the crossroads of the Pacific.

May I have the slide of Honolulu Harbor. [Statement directed to the slide operator.] The Honolulu Harbor consists of an entrance channel 40 feet deep, 500 feet wide, and 4,000 feet long. The channel leads to the Honolulu Harbor Basin while an inner channel leads to Kapalama Basin.

This afternoon we hope to take you to the Oloha Tower. From there you can see the channels and basins. We are also scheduled to take a ride, on a Coast Guard cutter, through the harbor.

Mr. GRAY. What are the dimensions of the turning basin?

Lieutenant Colonel HATCH. The Honolulu turning basin is 3,300 feet long and 1,520 feet wide.

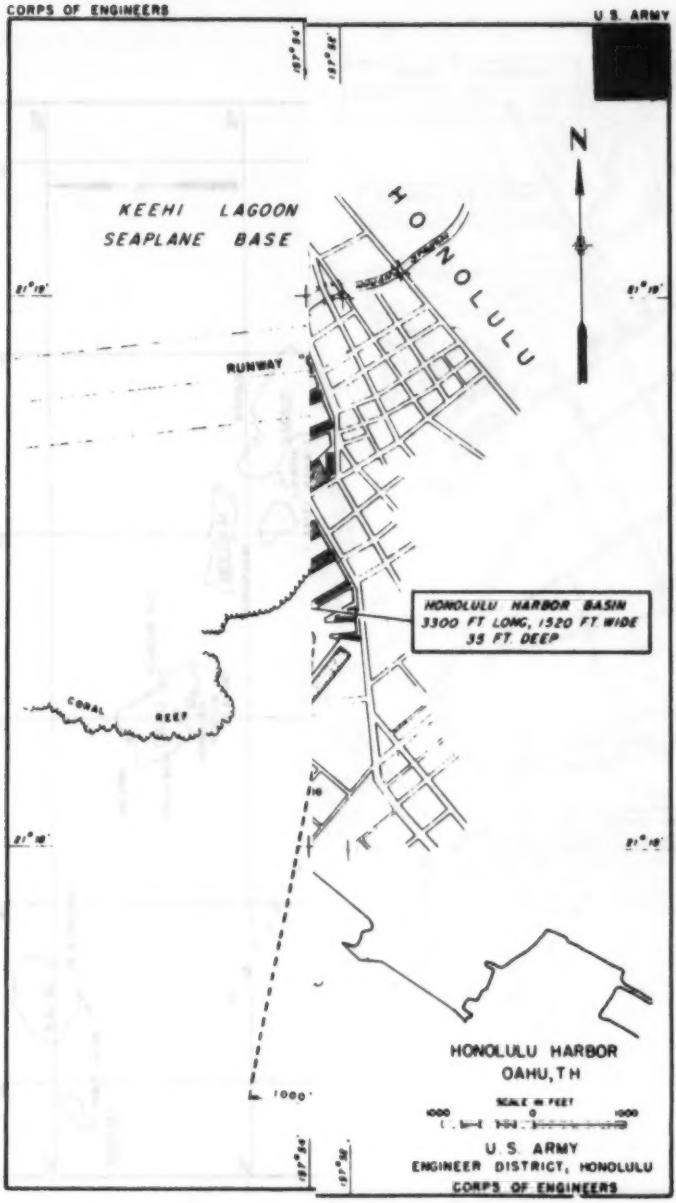
Mr. KLUCZYNSKI. Are there any problems with the Honolulu Harbor?

Lieutenant Colonel HATCH. The immediate problem with this harbor is dredging from this point here [indicating on map] to deep water.

Mr. HULL. What is the authorized depth?

Lieutenant Colonel HATCH. Thirty-five feet.

At this causeway [indicating on the map] connecting Sand Island and the city of Honolulu, a project has been authorized to construct a second entrance channel. Money has been appropriated this year for the advance design of the channel. The major problem will be the design of a drawbridge.



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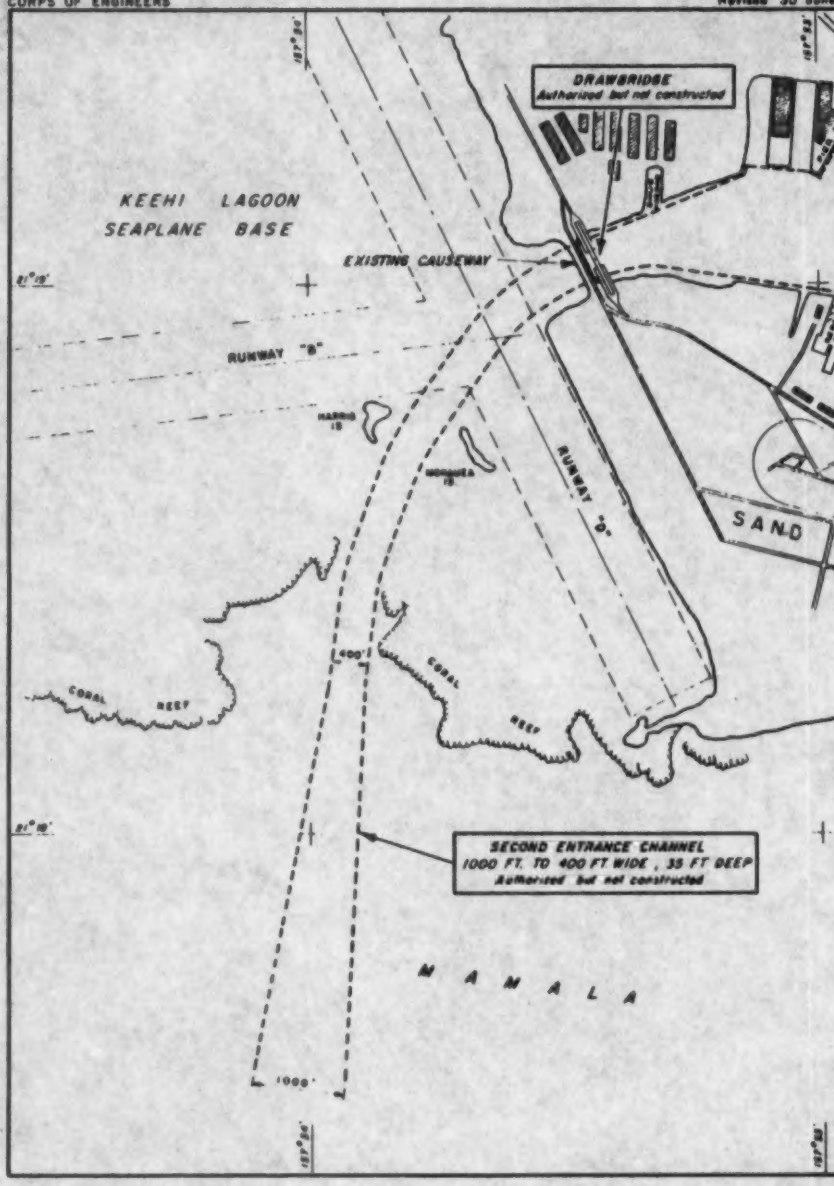
CORPS OF ENGINEERS

Revised 30 June



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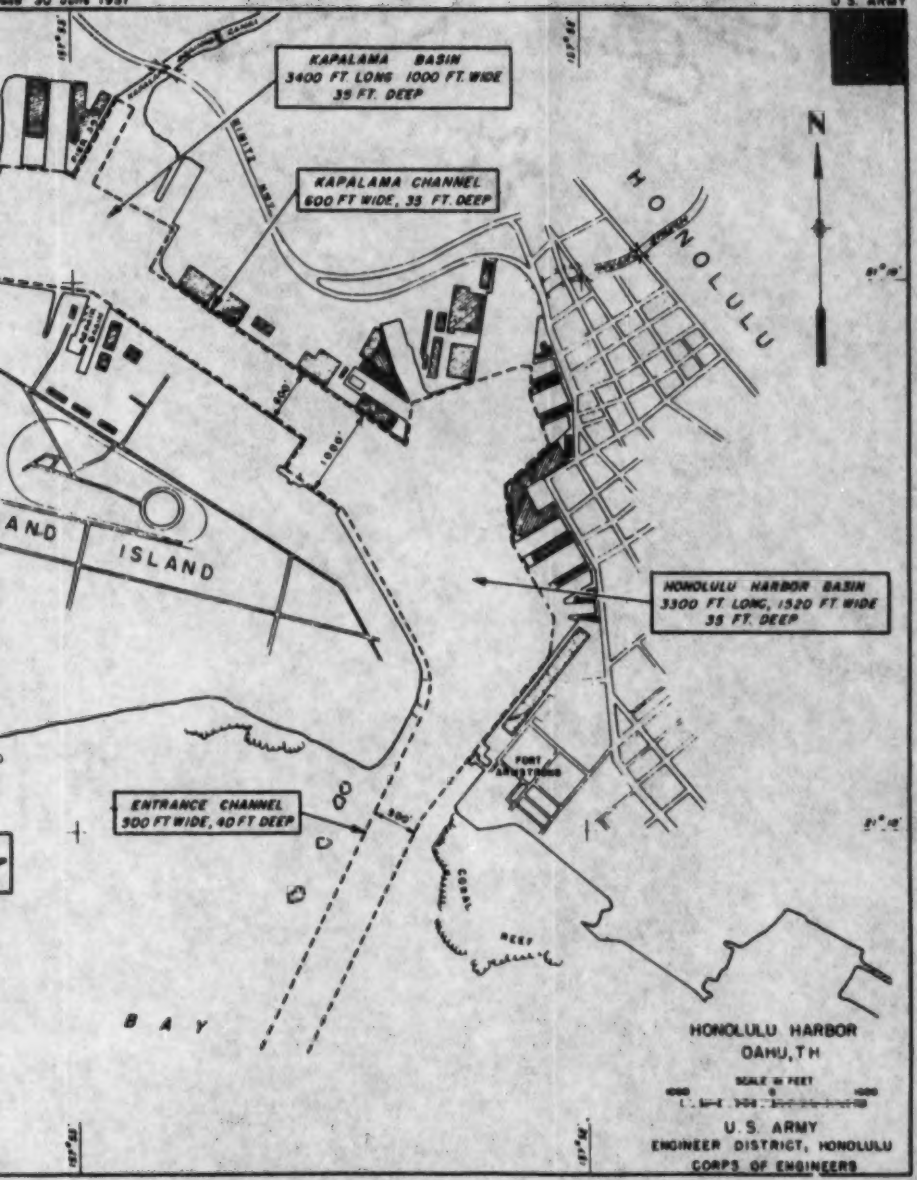
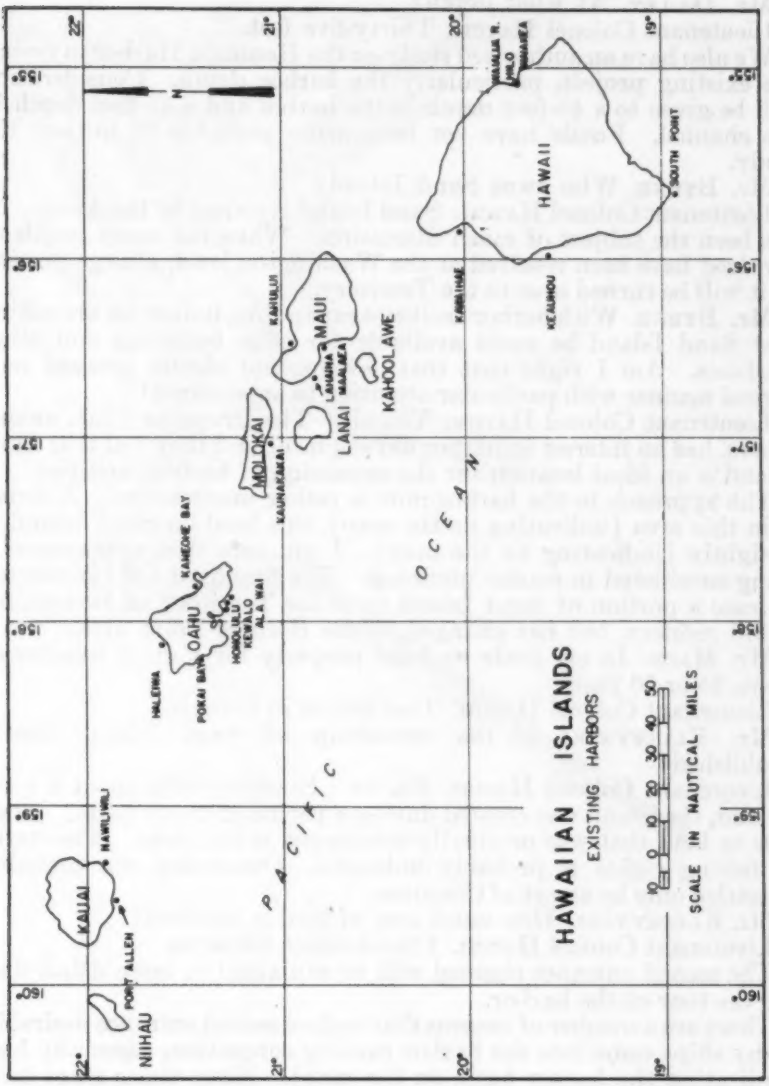

KAPALAMA BASIN
3400 FT. LONG 1000 FT. WIDE
35 FT. DEEP
KAPALAMA CHANNEL
600 FT WIDE, 35 FT. DEEP
HONOLULU
N
AND
ISLAND
HONOLULU HARBOR BASIN
3300 FT LONG, 1520 FT WIDE
35 FT. DEEP
ENTRANCE CHANNEL
300 FT WIDE, 40 FT DEEP
FORT
DERUSSY
CORAL
REEF
B A Y
HONOLULU HARBOR
OAHU, T H
SCALE IN FEET
U. S. ARMY
ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS


HAWAIIAN ISLANDS
EXISTING HARBORS
SCALE IN NAUTICAL MILES
10 0 10 20 30 40 50
PACIFIC OCEAN
KAUAI
NAWILIWILI
PORT ALLEN
NIIHAU
OAHU
HALEIWA
KANEOHE BAY
POKAI BAY
HONOLULU
KEWALO
ALA WAI
MOLOKAI
KAUNAKAKAI
KAHULUI
MAUI
LAHAINA
MAALAEA
LANAI
KAHOOLAWE
KAWAIHAE
KEAUHOU
HAWAII
HILO
HONOLII
SOUTH POINT
N

Mr. DOOLEY. Colonel, are you still planning to dredge that area (referring to the second entrance channel on the map)?

Lieutenant Colonel HATCH. Yes, sir. It will be about 10,000 feet long.

Mr. DOOLEY. At what depth?

Lieutenant Colonel HATCH. Thirty-five feet.

We also have an authorized study on the Honolulu Harbor to review the existing project, particularly the harbor depth. Consideration will be given to a 40-foot depth in the harbor and a 45-foot depth in the channel. Funds have not been made available to initiate the study.

Mr. BYRNE. Who owns Sand Island?

Lieutenant Colonel HATCH. Sand Island is owned by the Army. It has been the subject of much discussion. When the many problems involved have been resolved at the Washington level, a large portion of it will be turned over to the Territory.

Mr. BYRNE. With harbor facilities expanding, industries are asking that Sand Island be made available for office buildings and other facilities. Am I right that that development should proceed in a logical manner with particular attention to appearance?

Lieutenant Colonel HATCH. Yes, sir. The Propeller Club, among others, has an interest in harbor development and they feel that Sand Island is an ideal location for the expansion of harbor facilities.

The approach to the harbor now is rather unattractive. A dump is in this area [indicating on the map], this land on Sand Island is unsightly [indicating on the map]. I am sure that appearance is being considered in master planning. The Standard Oil Co. wanted to lease a portion of Sand Island from the Territory of Hawaii for an oil refinery, but has changed to the Barbers Point area.

Mr. MACK. In my State we lease property for a given number of years, 25 or 50 years.

Lieutenant Colonel HATCH. That is true in Hawaii.

Mr. KLUCZYNSKI. Is the ownership of Sand Island clearly established?

Lieutenant Colonel HATCH. No, sir. Starting with about 6 acres of land, the island was created during a period of many years. Exact title to land that was originally submerged is not clear. The status of fishing rights is probably unknown. Ownership can probably be settled only by an act of Congress.

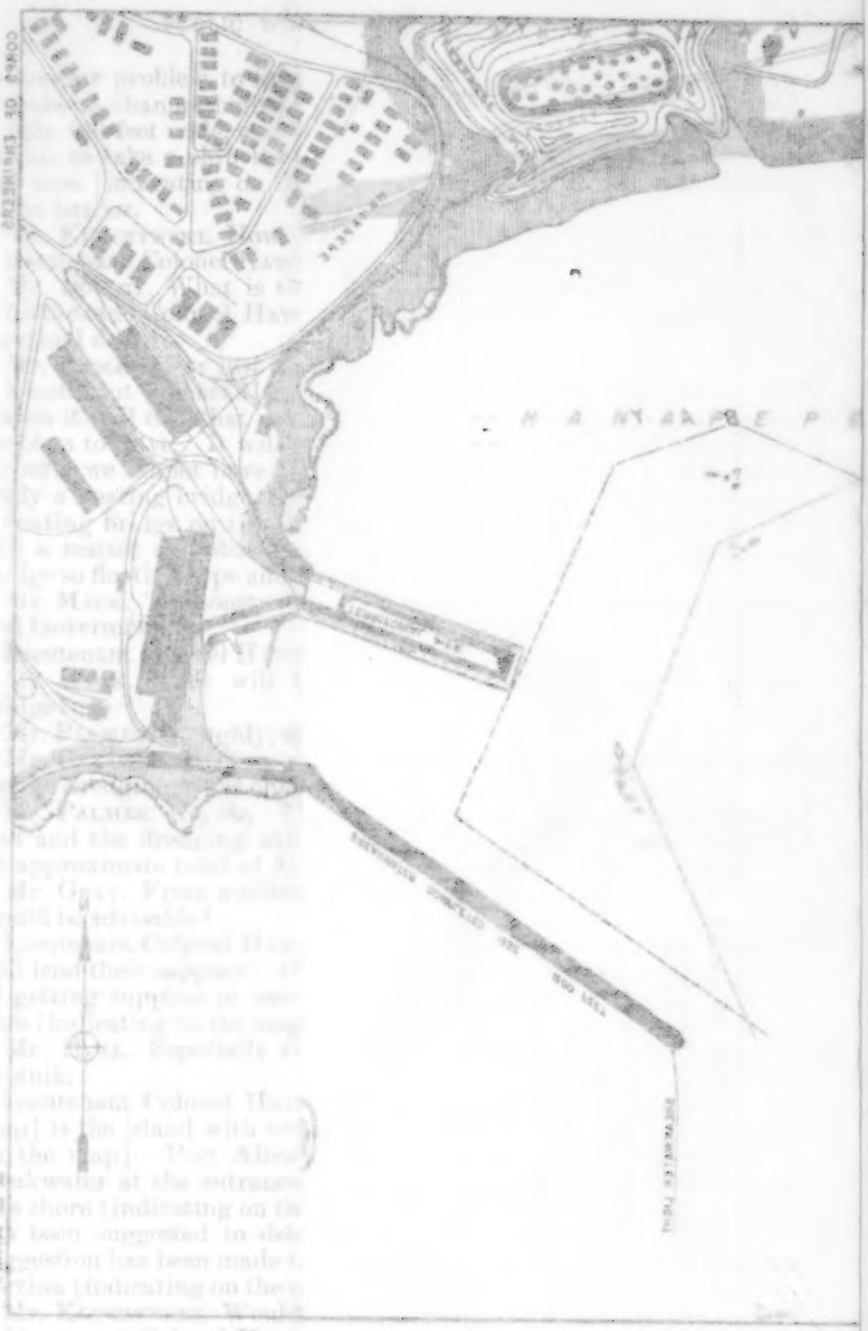
Mr. KLUCZYNSKI. How much area of land is involved?

Lieutenant Colonel HATCH. I think about 300 acres.

The second entrance channel will be explained in more detail during the tour of the harbor.

There are a number of reasons that make a second entrance desirable. Many ships come into the harbor causing congestion, especially here [indicating the harbor basin on the map]. Many times ships have to wait to get out because there are other ships coming in. The ships' standby time is costly and would be eliminated by the second entrance.

Another problem is the possibility of the channel being restricted entirely. In a strong wind a ship may go aground in the channel. If this should happen, ships could not come in or out this way [indicating on the map].

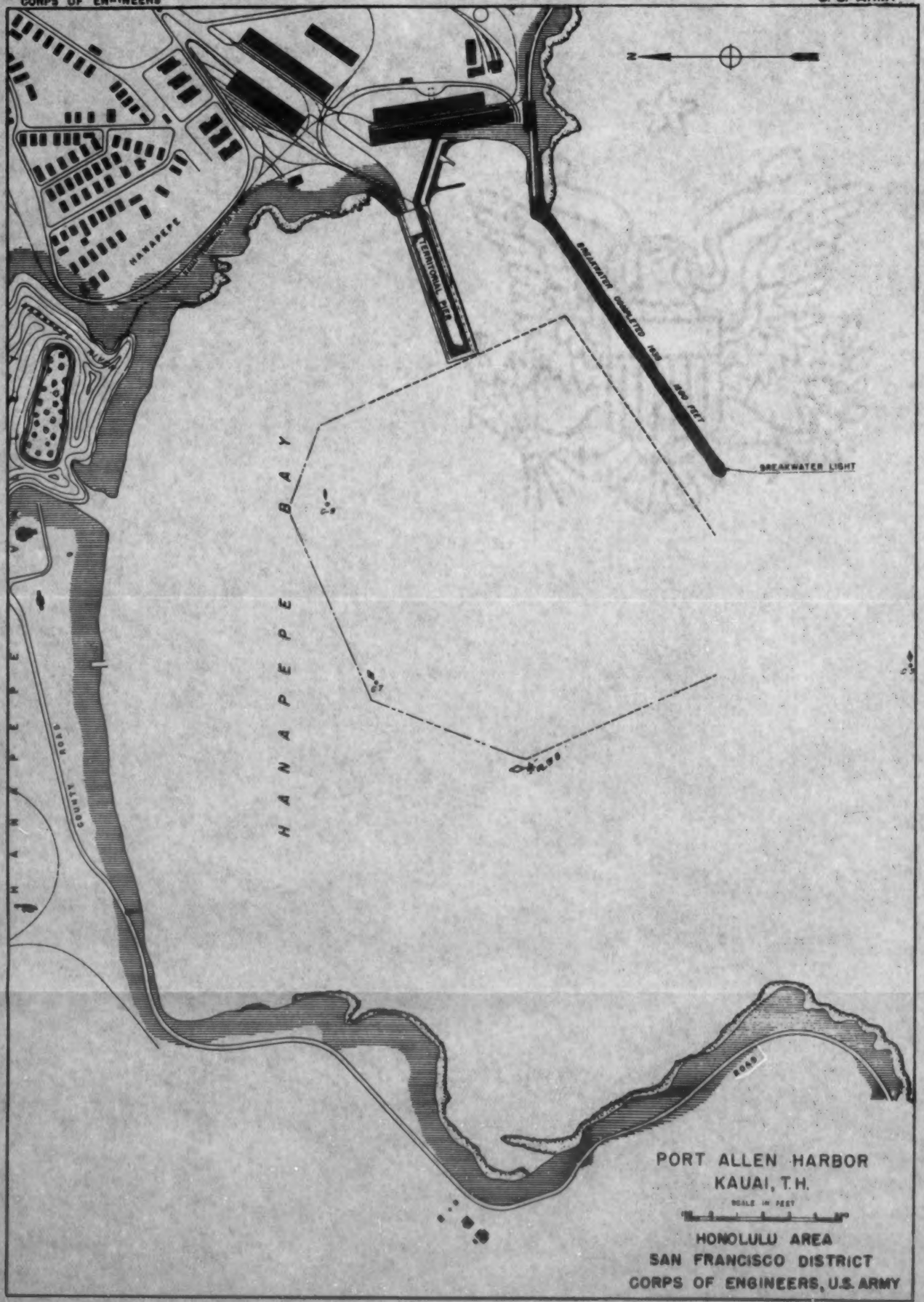


damage.

Mr. MACK. Is it an authorized project?

CORPS OF ENGINEERS

U. S. ARMY



PORT ALLEN HARBOR
KAUAI, T.H.

SCALE IN FEET

HONOLULU AREA
SAN FRANCISCO DISTRICT
CORPS OF ENGINEERS, U.S. ARMY

20651 O-56 (Face p. 5)

Another problem to be considered is the desirability of widening Kapalama channel here [indicating on the map]. As this channel is only 600 feet wide, and with ships moored on both sides, it is hazardous to take a ship through. There is a possibility of widening this area [indicating on the map] and making a lot of usable space in the harbor.

Mr. KLUCZYNSKI. How wide is the Kapalama turning basin?

Lieutenant Colonel HATCH. That is about 1,000 feet wide.

Mr. DOOLEY. What is the estimated cost to complete the project?

Lieutenant Colonel HATCH. Three million five hundred and forty thousand dollars.

Mr. DOOLEY. For just the study?

Lieutenant Colonel HATCH. No, sir. $108,000 for the study. The reason it will cost that much is that we have a difficult bridge-design problem to solve. It will have to be a low-level bridge because of the airport; we cannot have a high drawbridge. We have a proposal to study a floating bridge, but we don't know anyone who has designed a floating bridge on tidal water. We think it can be done, but it is still a matter of debate. Height restrictions rule out a fixed-type bridge so floating type and lift types will be studied.

Mr. MACK. The construction will be by local government or by Federal Government?

Lieutenant Colonel HATCH. Federal construction.

Mr. MACK. What will be the cost for the construction of the bridge?

Mr. PALMER. Roughly, about $2 million.

Mr. KLUCZYNSKI. Two million dollars for the bridge and $250,000 for the dredging of the channel?

Mr. PALMER. No, sir. The bridge will cost approximately $2 million and the dredging will cost approximately $2 million. Making an approximate total of $4 million for a second entrance channel.

Mr. GRAY. From a military standpoint, a second entrance channel would be advisable?

Lieutenant Colonel HATCH. Yes, sir. The Navy, at Pearl Harbor, will lend their support. If Pearl Harbor were blocked, proper means of getting supplies in and out could be furnished at the Army port here [indicating on the map].

Mr. HULL. Especially these days, reading about this business of sputnik.

Lieutenant Colonel HATCH. Now, this [indicating Kauai on the map] is the island with two harbors. This is Port Allen [indicating on the map]. Port Allen is a small harbor and has a substantial breakwater at the entrance. Our problems are beach erosion along this shore [indicating on the map] and surge along the pier. A study has been suggested to determine a way to reduce the surge. One suggestion has been made to construct another breakwater across this portion [indicating on the map] of the entrance.

Mr. KLUCZYNSKI. Would it decrease the amount of beach erosion?

Lieutenant Colonel HATCH. I would say that it would. Waves attack directly in here [indicating on the map] and hit this shore [indicating on the map]. I believe the breakwater would reduce the damage.

Mr. MACK. Is it an authorized project?

Lieutenant Colonel HATCH. The beach erosion project was in last session's omnibus bill which was not enacted into law.

The second harbor on Kauai is Nawiliwili, a good harbor. This is the entrance channel [indicating on the map] that turns as it comes into the harbor basin and is protected by the breakwater. The entrance channel is somewhat hazardous. The breakwater is inadequate and is in a bad state of repair. The people of the county of Kauai have made urgent requests that the breakwater be repaired.

Mr. MACK. What is the depth of the harbor?

Lieutenant Colonel HATCH. The harbor basin is 35 feet and the entrance channel has a depth of 40 feet.

As shown on the chart, the harbor [indicating on the map] was recently extended in this area [indicating on the map].

This is Kaunakakai on the island of Molokai. There is only a barge harbor on Molokai.

Shipping from Molokai to Oahu and back increased tremendously in the past few years. This places an economic burden on the island in that transocean ships are unable to load or unload. A study for a proposed deepwater harbor at Kaunakakai has been authorized, but funds have not been made available for this purpose.

The next harbor is Kahului on the island of Maui. Kahului is a good harbor. It has two breakwaters which were damaged by storm waves, but which have recently been repaired and are now in good shape.

The immediate problem at Kahului is to determine the feasibility of enlarging the turning basin. The reason for this is that prevailing winds are from approximately this direction [indicating NE to SW on the map]. As a ship enters the harbor and starts to turn, the wind hits the ship broadside. This creates a hazard of going aground right along this line [indicating on the map].The project in question would eliminate that hazard.

Mr. MACK. I didn't get the name of that harbor.

Lieutenant Colonel HATCH. Kahului.

The study on this harbor is underway and will be processed through the chain of command. We hope for approval in time to reach your committee during the next session of Congress. Local interests are in favor of the project and are anxious to have it executed.

Next, we have the island of Hawaii. You will recall that I mentioned Kawaihae earlier and that it is under construction. This project is being built for about a million dollars less than the original estimate of $6 million.

We have completed the causeways and dikes as indicated by the dark line shown here [indicating on the map]. These dikes will retain the dredged material from the channel and from the harbor basin. The contractor engaged to do the dredging, under this contract, should start work this Monday. We have not advertised for the construction of the breakwater. We hope to advertise it this spring. The harbor should be in a suitable condition within about a year; the breakwater will take more time. The Territory will construct piers and other facilities in this area [indicating on the map].

Mr. BYRNE. What is the population of Hawaii?

Mr. PALMER. Roughly, about 40,000.

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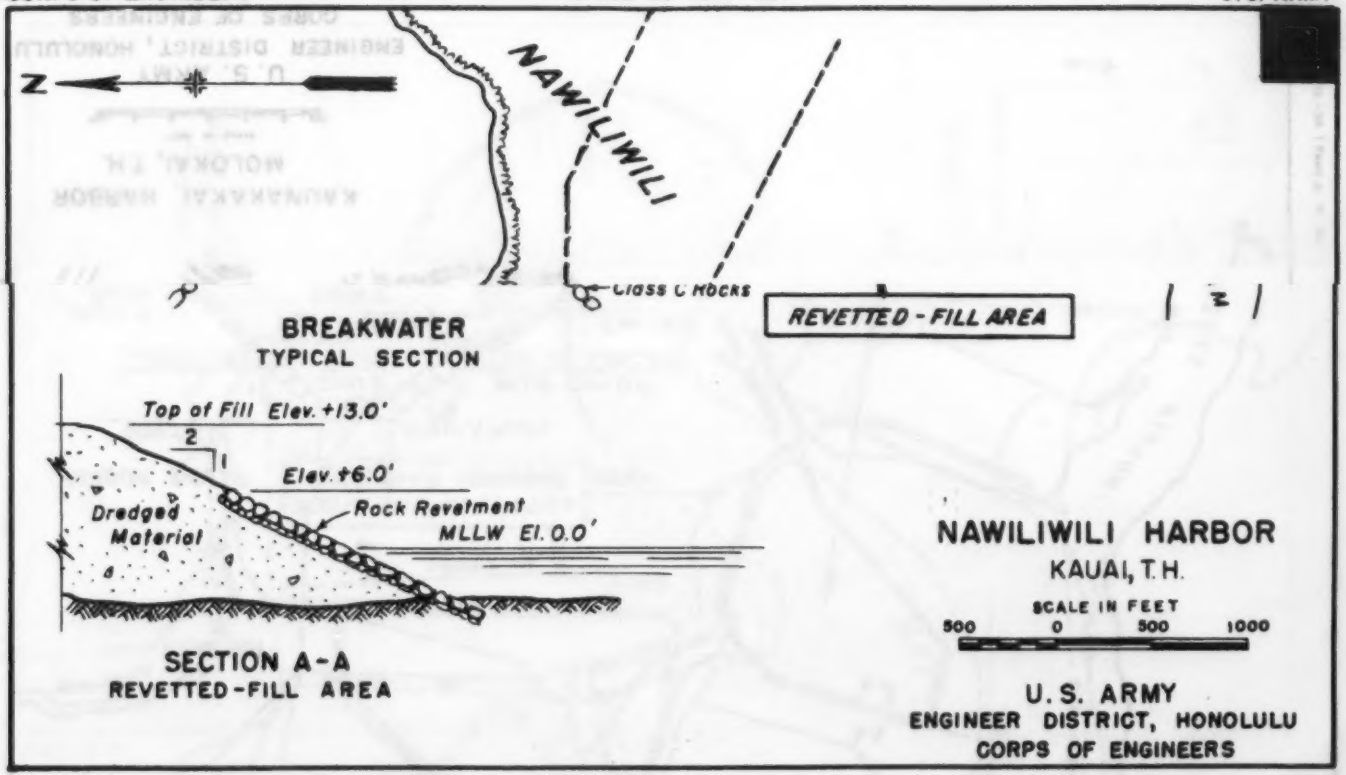

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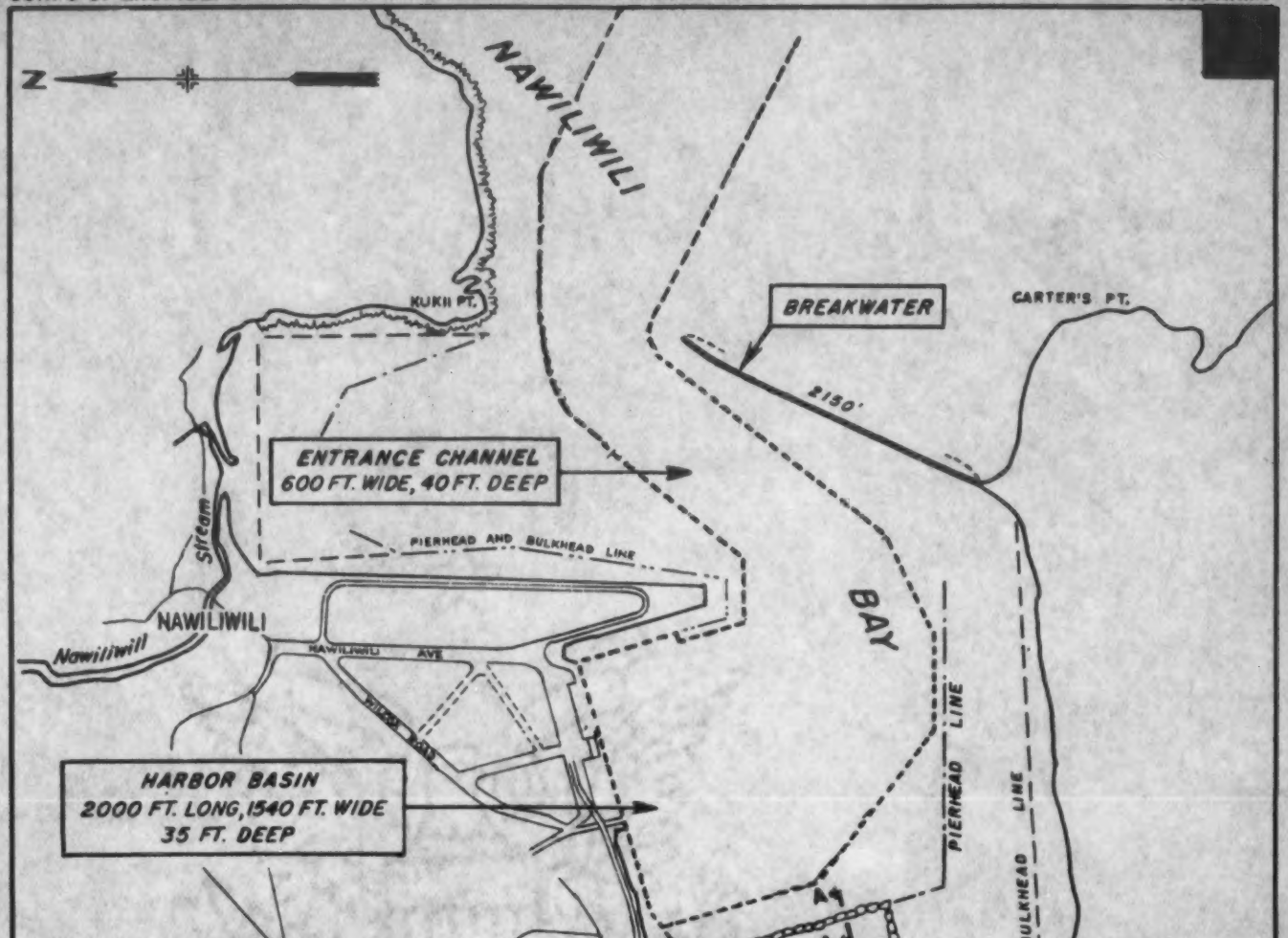
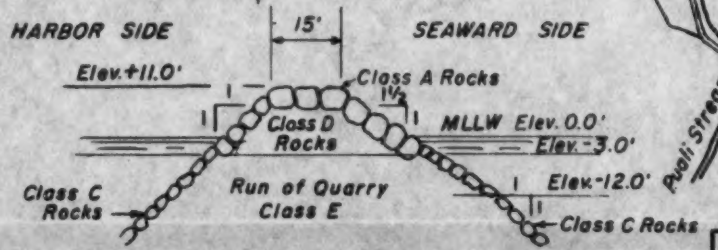
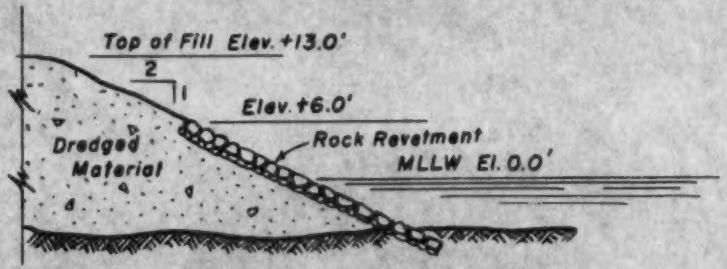




BREAKWATER
TYPICAL SECTION



SECTION A-A
REVETTED-FILL AREA

NAWILIWILI HARBOR
KAUAI, T.H.

SCALE IN FEET
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U.S. ARMY
ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS

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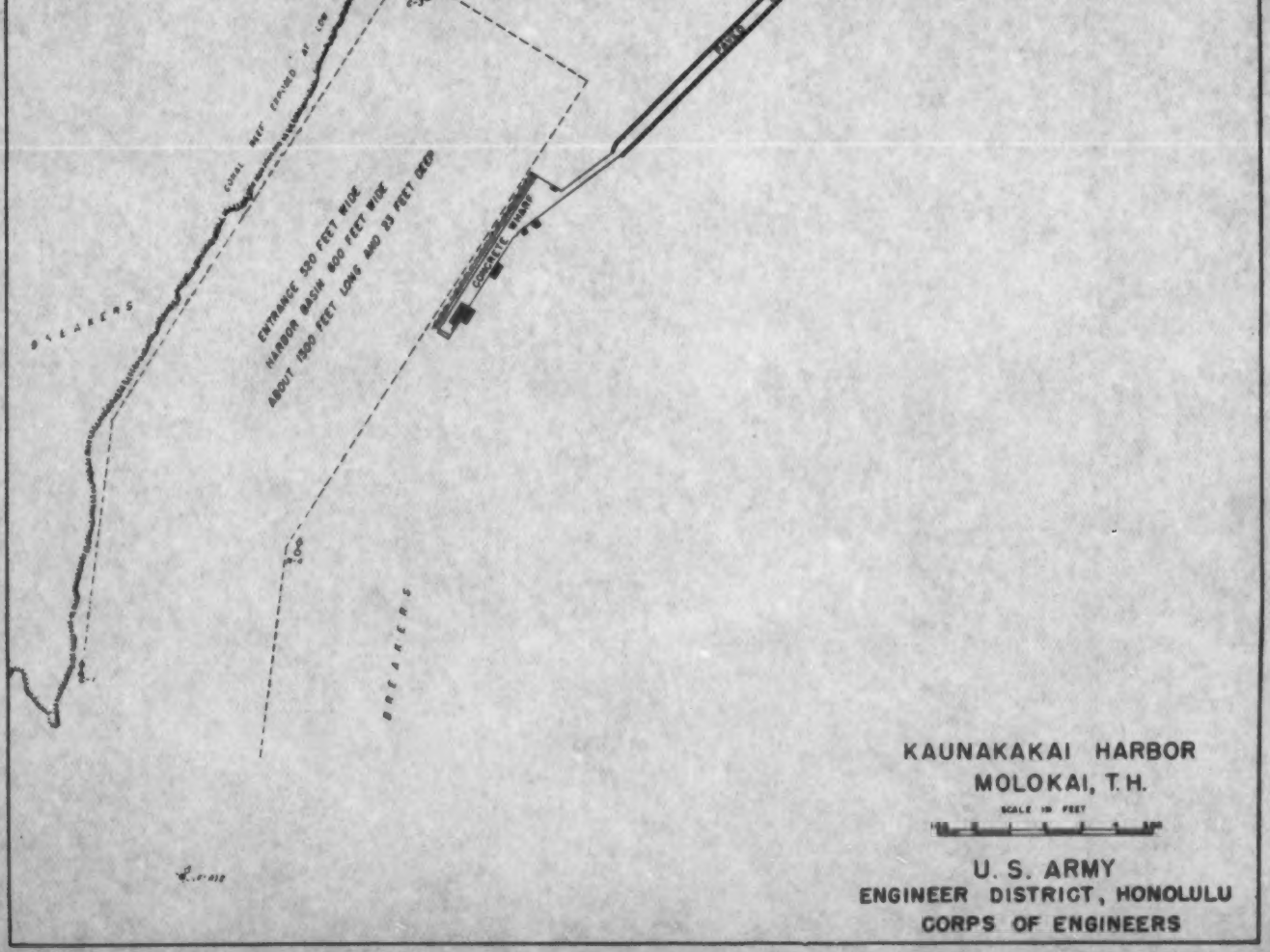


KAUNAKAKAI HARBOR
MOLOKAI, T.H.

SCALE IN FEET

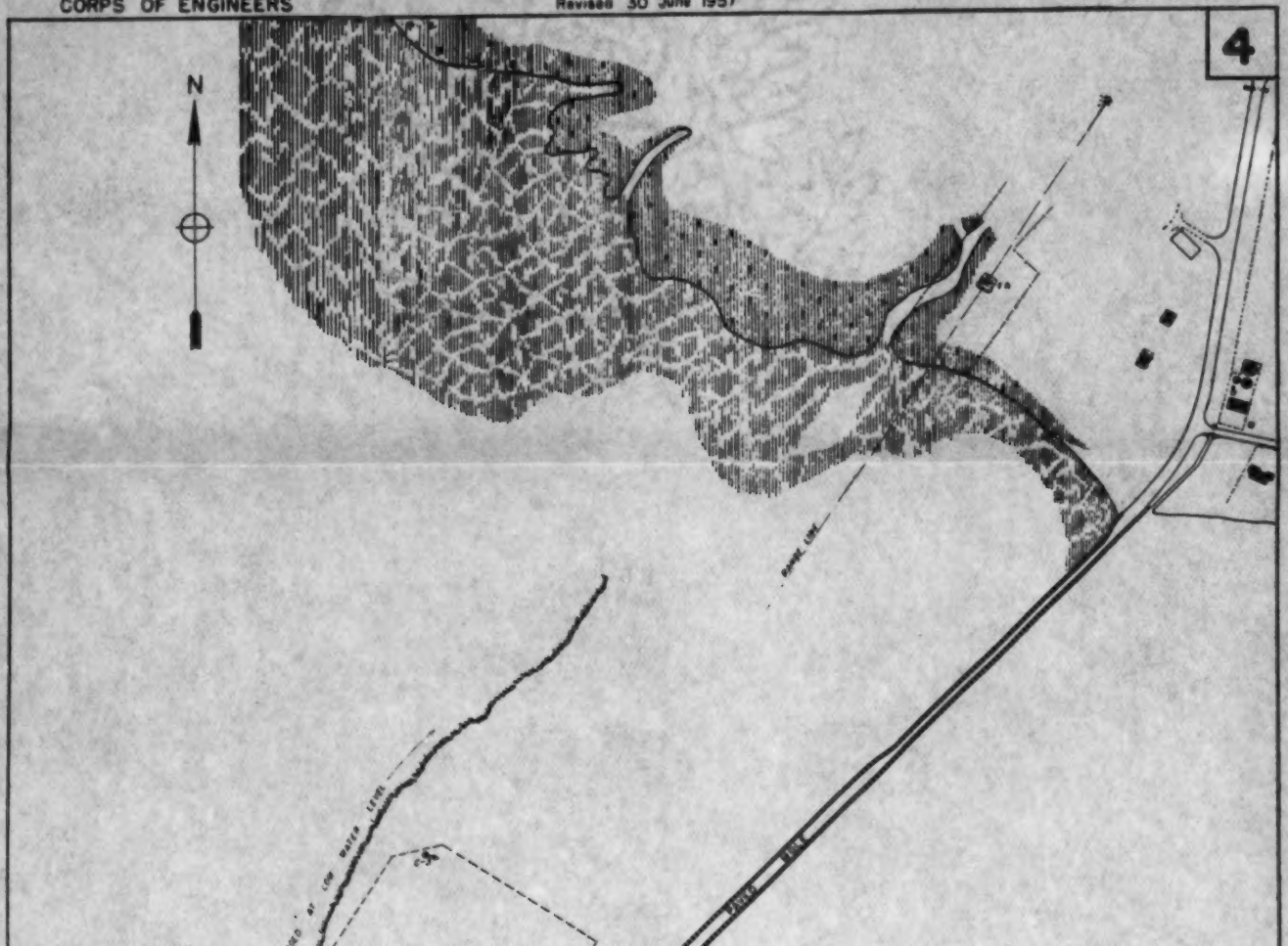
U. S. ARMY
ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS

20651 O-55 (Face p. 6) No. 2

CORPS OF ENGINEERS

Revised 30 June 1957

U. S. ARMY



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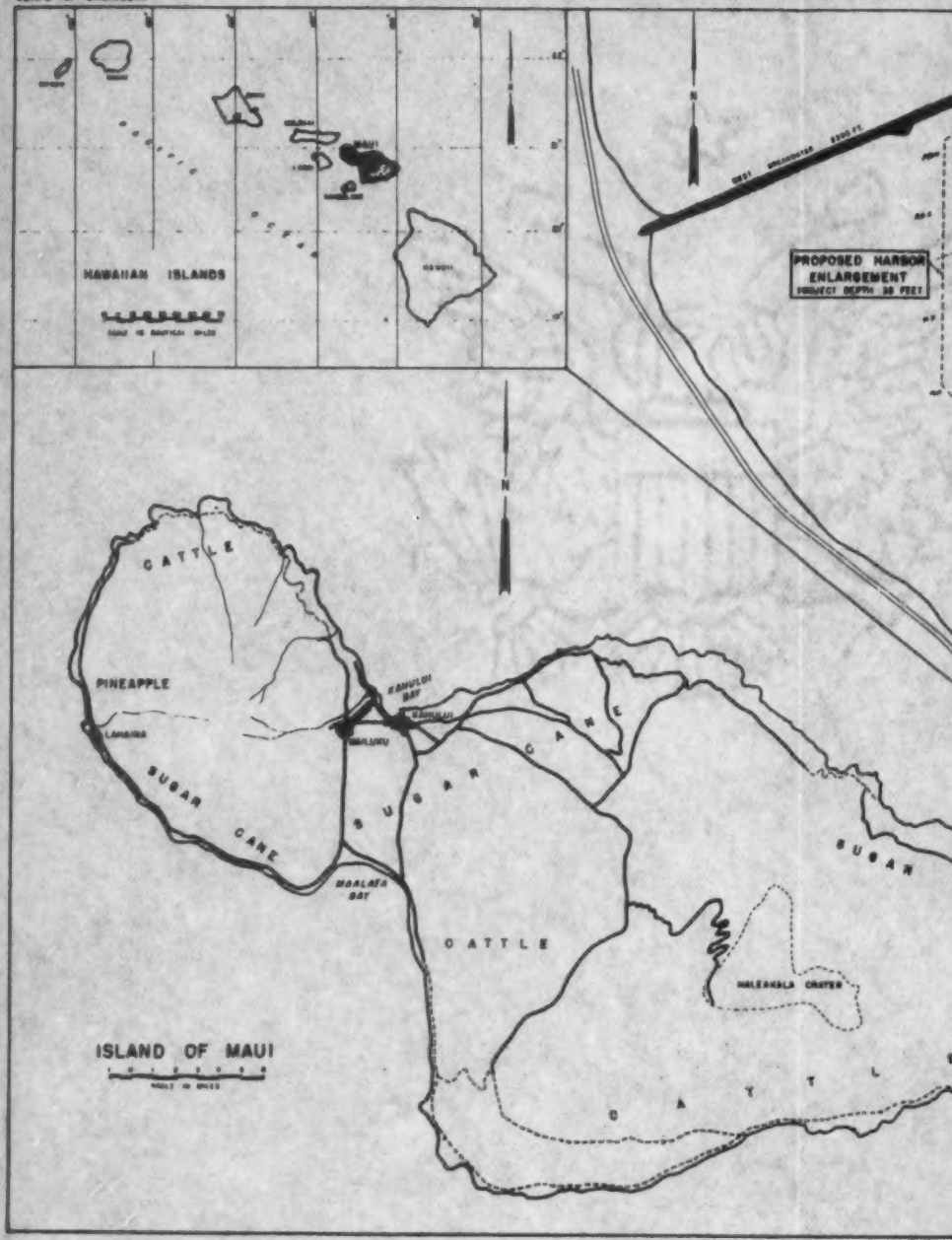

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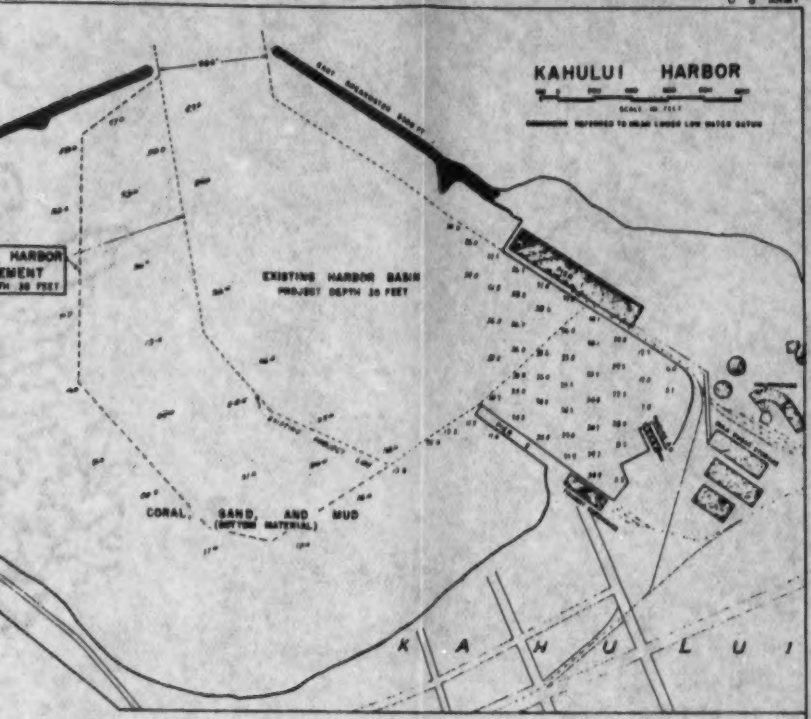
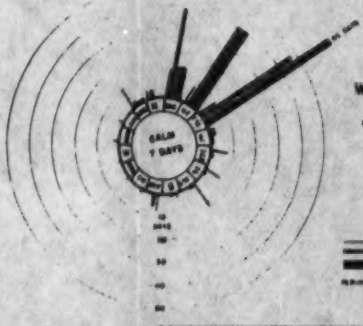
U S ARMY





WIND DIAGRAM

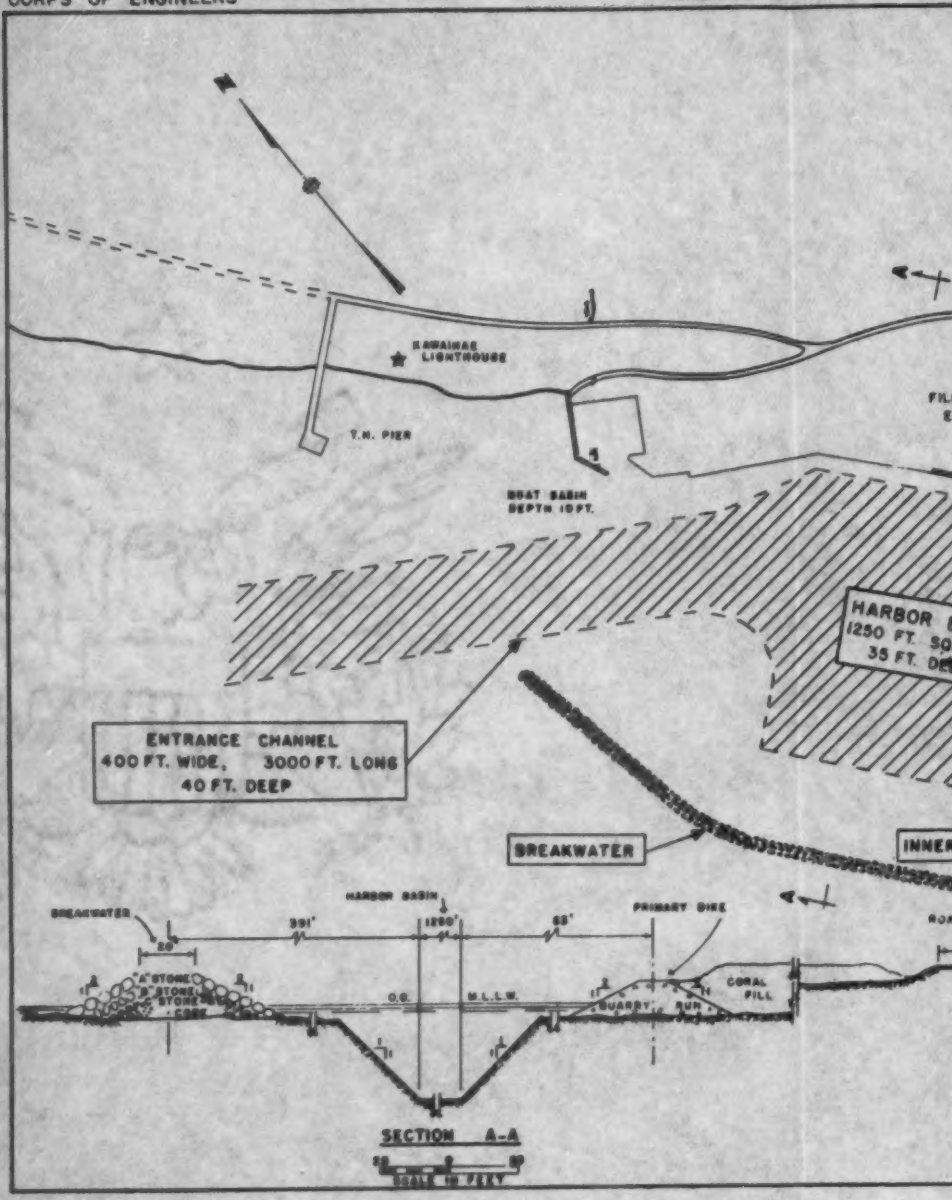
DATA FROM
U S WEATHER BUREAU,
KAHULUI AIRPORT

LEGEND

PRELIMINARY EXAMINATION
KAHULUI HARBOR
MAUI, T. H.
GENERAL MAP

RH-870

PLATE 1


KAWAIHAE LIGHTHOUSE
T.H. PIER
BOAT BASIN DEPTH 10 FT.
HARBOR
1250 FT. SQ
35 FT. DE
ENTRANCE CHANNEL
400 FT. WIDE, 3000 FT. LONG
40 FT. DEEP
BREAKWATER
INNER
BREAKWATER
HARBOR BASIN
PRIMARY DIKE
80'
391'
1200'
83'
"A" STONE
"B" STONE
STONE
CORE
O.O.
M.L.L.W.
QUARRY RUN
CORAL FILL
SECTION A-A
SCALE IN FEET

U. S. ARMY

UNDER CONSTRUCTION

KAWAIHAE

FILL AREA "A"
ELEV. 8 FT. +

FILL AREA "B"
ELEV. 13 FT. +

PRIMARY DIKE

ARBOR BASIN
50 FT. SQUARE
35 FT. DEEP

FILL AREA "C"
ELEV. 18 FT. +

INNER CAUSEWAY

ELEV. 13 FT. +

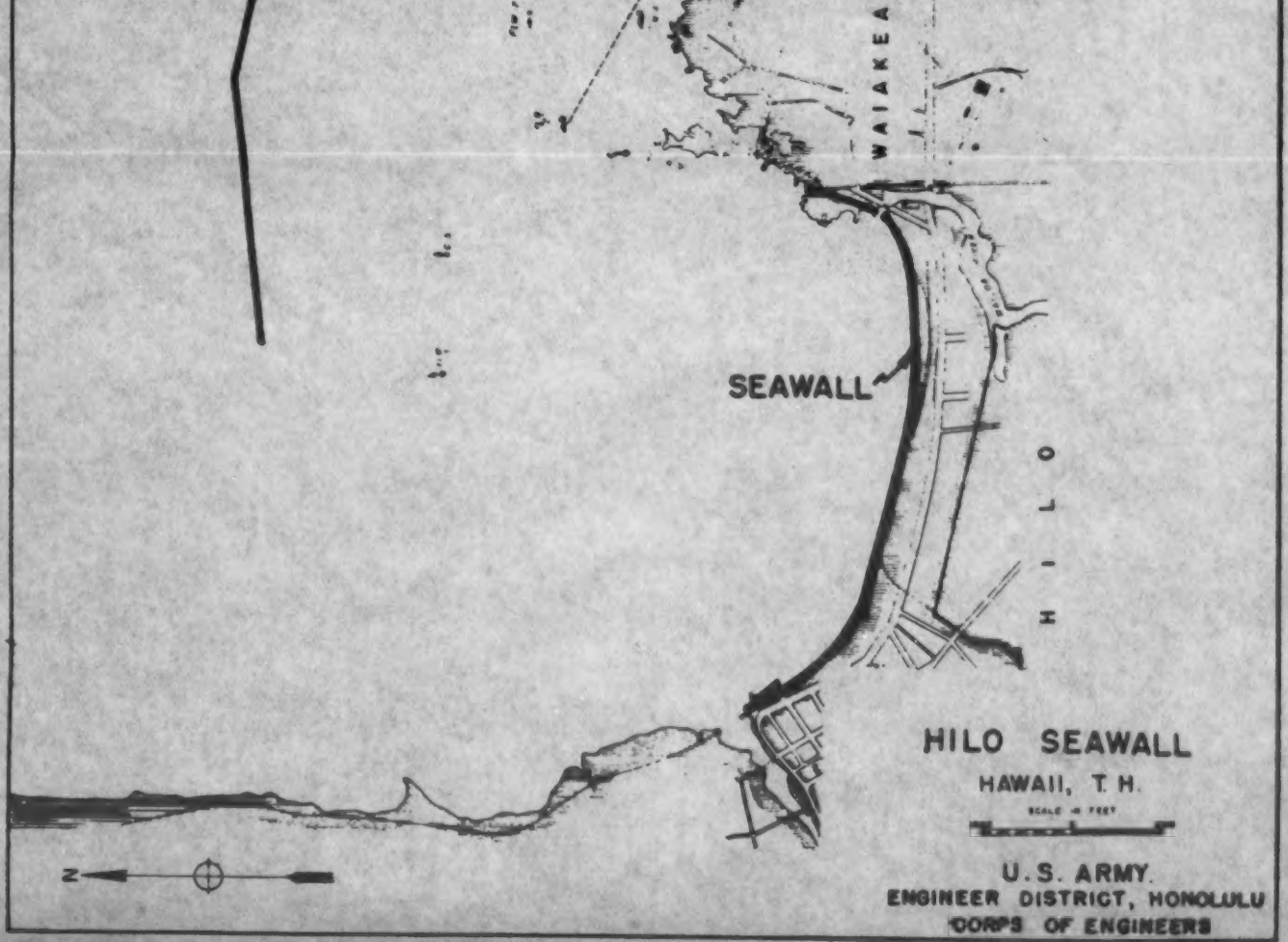
ROAD
4
16'

OUTER CAUSEWAY

KAWAIHAE HARBOR
HAWAII, T. H.

200 0 200 400 600
SCALE IN FEET

U. S. ARMY
ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS



HILO SEAWALL

HAWAII, T. H.

SCALE IN FEET

U.S. ARMY.
ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS

20551 O-58 (Face p. 6) No. 5

CORPS OF ENGINEERS

U S ARMY

Estimated population, about 40,000.

Lieutenant Colonel HATCH. We will tour from here [indicating Hilo on the map] up to this point [indicating Kona on the map] and back to here [indicating Waimea on the map]. Those of you who are scheduled to see Kawaihae may be surprised at the lack of population in this area. The town of Kawaihae consists of a small village with one country store.

Mr. KLUCZYNSKI. Does it comprise a large agricultural area?

Lieutenant Colonel HATCH. There is little agriculture in this area [indicating on the map]. This is a dry area.

Mr. MACK. Sugar is the only industry on Hawaii?

Lieutenant Colonel HATCH. No, sir. There are others, such as orchids, macadamia nuts, and coffee.

Hilo Harbor is the only existing harbor on the "Big Island." The green shows the shoreline; the entrance is through here; the turning basin is here [indicating on the map]. Dredging of this area [indicating on the map] is part of the Federal project. There is a possibility that we will be asked to extend the project line up to here [indicating on the map]. Although this harbor appears to be a perfect one, it is not. There are tremendous waves which drive against the breakwater causing damage. The waves turning around the breakwater create a surge which carries into the harbor area.

In addition, the Hilo area seems to be a target for tidal waves. Each tidal wave appears to head directly into this area [indicating on the map]. One of the greatest tidal waves of record, in 1946, came into the city, doing a $17-million damage, and costing 96 lives. Because of this, we have a study underway to provide a seawall to protect the city.

Studies have been authorized to extend the basin here [indicating on the map], provide a small-boat harbor here [indicating on the map], and to reduce the surge from the waves in this direction [indicating on the map]. Are there any questions?

Mr. MACK. Has the seawall been authorized?

Lieutenant Colonel HATCH. The study has been authorized. The study should be completed this year and should be ready for your committee by the next session of Congress.

Mr. HULL. Do you know the approximate cost of the study?

Lieutenant Colonel HATCH. I think Mr. Palmer can answer that question.

Mr. PALMER. Approximately $26,000.

Mr. HULL. A matter of record, just for the seawall?

Mr. PALMER. Yes; the cost of the project will be submitted to the committee.

Mr. HULL. Let us make it a part of the record.

Lieutenant Colonel HATCH. As I mentioned before, there are many who are interested in the development of the Barbers Point area. A study is being made by local interests who may make a request to your committee some time in the future.

Mr. SCUDDER. This is to be a small-boat harbor?

Lieutenant Colonel HATCH. No, sir. It will be a deepwater harbor. This will allow the industrial area of Honolulu to be divided into two parts on an extensive plan.

Mr. KLUCZYNSKI. Later this morning, gentlemen, we hope to look over your projects. As you know, we are not an investigating com-

mittee, but are here to familiarize ourselves with your many projects. As a Public Works Committee of the House of Representatives we are not here to give "Yes" or "No" answers on these questions. We are here to look over your projects and review them so that we will be more familiar with your problems.

Everything and everyone have been wonderful. I am completely amazed by the slides. I have never seen anything like them before. They have helped tremendously, though Colonel Hatch has explained everything to us very thoroughly. Now we of the committee are ready to receive any other witnesses.

I suggest that the committee keep the record open for 2 or 3 weeks. If anyone has any other information they want to have inserted into the record later, please contact Colonel Hatch of the United States Army engineer district, Honolulu.

Our next witness will be Mr. Warren Titus. Give the reporter your name and whom you represent.

TESTIMONY OF WARREN S. TITUS, CHAIRMAN, MARITIME AFFAIRS COMMITTEE, CHAMBER OF COMMERCE OF HONOLULU

Mr. TITUS. Mr. Chairman and members of the Public Works Committee, I am Warren S. Titus, chairman, maritime affairs committee of the chamber of commerce. I also represent the Propeller Club of the United States, Port of Honolulu.

Colonel Hatch gave such an excellent explanation that anything I might say will be repetitious. I would like to emphasize two points, however. I want to speak on specific projects.

Our major income, as you are probably aware, is sugar. We produce slightly over a million tons a year. A large quantity of our sugar output is shipped to the mainland, and a small portion is produced for foreign export. A good portion of the sugar is used domestically. Another source of income comes from the military establishments. The tourist trade in Hawaii is growing rapidly.

Those who have worked for private industry are concerned over the fact that, in recent years, there are few who would attack the problem of new industry for Hawaii. Because of that the study of a refinery at Barbers Point was undertaken only this year. In addition, we are trying to attract light industry here. It is our hope that an expanded industrial area will truly give us an opportunity to have a broader economic basis.

Another point I would like to take up with you, gentlemen, is the consideration of our transportation needs. In your States those living inland have both rail and highway transportation available to you. Your connections with major cities are adequate to handle all required imports and exports. States like California, cities on the lakes, and other coastal States have a third transportation system—water. Here in Hawaii interisland commerce depends upon water. The future development of the islands depends on their ability to develop a waterways system that will be able to properly care for the commerce of the islands; both within the Territory and to our foreign and domestic markets.

I would like to call your attention to the brochure that is in front of you. It was prepared by the Chamber of Commerce of Honolulu and

the Propeller Club, Port of Honolulu, for your information on Hawaii's Federal-aid harbor projects.

Mr. KLUCZYNSKI. Do you want this [Honolulu exhibits A, B, and C] to be entered into the record?

Mr. TITUS. Yes, sir. I would like to have it made a part of the record. Thank you for the opportunity of speaking to you, and I hope that you will find time to enjoy our beautiful Hawaiian Islands.

(Exhibits B and C having been printed, are included in committee's files.)

(Exhibit A follows:)

MEMORANDUM ON HAWAII'S FEDERAL AID HARBOR PROJECTS

FOREWORD

Hawaii, a modern community, is located at the crossroads of the Pacific Ocean area, separated from its major market and source of food supply and other commodities by 2,200 miles.

Unlike contiguous American communities, Hawaii cannot turn to trucking or rail transport if a breakdown occurs in water transportation, which is the only means of surface transportation available. It is interesting to note that on each of the major islands of Hawaii, with one exception, there is only one deepwater port capable of serving overseas vessels. For example, the island of Hawaii is totally dependent on Hilo Harbor; the island of Hawaii is totally dependent on Kahului Harbor, and in the case of Oahu, Honolulu Harbor is the only commercial deepsea port available. In the case of Kauai, fortunately, there are two harbors, Nawiliwili and Port Allen, both capable of handling overseas vessels. Port Allen Harbor, however, because of its exposed position, is not considered a safe all-weather port.

Up until World War II, Hawaii's economy was based almost entirely on agriculture, with sugar being the largest single product and pineapple the second largest product. Since World War II, Oahu, fortunately, has enjoyed a tremendous growth in tourism, and through the joint efforts of the territorial government and private industry a program directed toward attracting new industries to Hawaii has been initiated, thereby expanding further the islands' economic base.

As an example of the growth of Hawaii during recent years, in 1950, slightly less than 50,000 tourists visited Hawaii. In 1956, this was increased to approximately 130,000, and it is conservatively estimated that by 1962, 270,000 tourists will visit Hawaii annually.

Further indication of growth, in 1940, the total volume of wholesale sales in Hawaii amounted to $90 million; in 1956, this had increased to $270 million. In 1940, personal income amounted to slightly over $200 million, and in 1956, had increased to approximately $1 billion.

The total population of Hawaii in 1957 is 551,000. It is estimated that by 1965, the population will increase to 650,000. It is obvious that if Hawaii is to continue to grow and enjoy the full benefit of its potential expansion, every effort must be made to provide adequate harbor facilities to handle the ever-increasing volume of traffic. This holds true both in the case of overseas traffic and interisland traffic.

The steamship lines serving Hawaii are vitally concerned with the future development and maintenance of Hawaii's harbors. They have the responsibility of transporting Hawaii's goods, tourists, and residents as efficiently and economically as possible.

In the case of cargo, in 1956, 3,500,000 tons of cargo were discharged in Hawaiian Island ports, and 2,500,000 tons of cargo were exported from Hawaiian Island ports for a total of 6 million tons. This is an increase over 1950 of a million and a half tons, and with Hawaii's rapidly expanding economy, it is anticipated that the increase over the next 6 years will be even greater.

Surface transportation is playing an ever-increasing part in the growth of tourism. Until 1956 only 1 passenger vessel, the *Lurline*, provided a service between California and Hawaii ports. American President Line's *President Wilson* and *Cleveland* also called at Hawaii, but were concerned primarily with through traffic to the Orient.

In 1957, Matson Navigation Co. added the *Matsonia*, to the California-Hawaii service and two additional vessels, the *Mariposa* and *Monterey* for the Antipodes service to Hawaii.

Hawaiian Steamship Co. inaugurated their service between California and Hawaii with the *Leilani*.

A newcomer to the Pacific, the Orient Line which had largely operated on an experimental basis up to 1956, established a permanent service utilizing 4 passenger vessels.

In 1956, 56,561 passengers arrived in Hawaii by ship. It is estimated that by 1958 this will be increased to 103,165, or an increase of 82 percent. During the same period, there will be an increase of passenger ship calls from 91 per year to 172 per year.

Hawaii's ports are not limited to serving the people of Hawaii. The United States Government, through its military establishments, has a vital stake in the Hawaiian Islands. It is interesting to note that during the recent cutback in military forces, Hawaii conversely has had an increase in military personnal.

In Honolulu Harbor, the Army maintains a vast military terminal serving miiltary vessels, and the other island ports are utilized from time to time for military vessels. Kawaihae is an excellent example as that port will serve the military training area at Pohakaloa.

The commerce between the islands is also primarily dependent on water transportation. Additionally, the ocean provides one of Hawaii's major natural resources in the fields of commercial fishing, sport fishing, and boating. The development of commercial and sport fishing, as well as yachting, is seriously hampered in the Hawaiian Islands by a lack of adequate harbors of refuge, which are an absolute necessity to reduce hazards created by adverse weather conditions.

Because of the awareness of the people of the Territory of their dependence on water transportation, the Affiliated Chambers of Commerce of the Hawaiian Islands, and the Propeller Club of the United States, Port of Honolulu, in cooperation with the ocean carriers and the Territorial Board of Harbor Commissioners have studied the needs for harbor development and by joint action recommended priorities to several works projects indicating the comparative urgency of these projects.

In summary, it can be stated that without adequate ocean transportation, which can only be maintained with proper harbor facilities, Hawaii cannot grow; and, any serious breakdown in our ocean transportation system caused by disruption of service, can seriously endanger the economic structure of the Territory and the military security of the Nation.

Project Under Construction

KAWAIHAE HARBOR, T. H.

Progress report

The first phase, construction of dike, causeways, and revetment, is essentially completed. Contract for the second phase, dredging of the entrance channel and harbor basin, has been awarded. The third phase of the project, the construction of the breakwater, is in the advance planning stage.

Maintenance Project

NAWILIWILI HARBOR BREAKWATER REPAIRS, KAUAI

Statement

This breakwater sustained its first major damage in 1952 and again in March of 1954. No repairs have been made since the last damage occurred. Major repairs to this breakwater should be effected as quickly as possible, as the damage is continuing and the total cost is increasing the longer that this work is deferred.

In the interest of maximum economy to the United States and in the interest of safety to all vessels, merchant and Government, repairs should be made without delay. Each year the winter storms will remove a little more of the outer end as well as undermining other sections of the structure. This loss sets up wave action within the harbor which is not only dangerous to vessels entering and leaving the harbor, but may also undermine the revetted area of 21 acres created by dredged material. It will also set up destructive erosion along the other sides of the harbor. The Honolulu district engineer is fully aware of

the importance of this work, and it is understood they have requested funds for this job. It is, therefore, urged that all available maintenance funds for the fiscal year be used for this work, and that a request be made for appropriations which will complete these repairs in the fiscal year 1958.

NEW CONSTRUCTION—PROJECT STUDIES

SECOND ENTRANCE HONOLULU HARBOR

Priority assignment

Recommended Priority No. 1.

Project authorized September 3, 1954, by the 81st Congress, estimated cost $3,543,000, no funds available, but $50,000 included in President's fiscal year 1958 budget.

Statement

Honolulu Harbor is the major deepwater port in the Hawaiian Island chain serving both commercial and military facilities. The harbor at present is provided with a single entrance allowing one-way traffic only.

Due to the limited access to Honolulu Harbor, a casualty such as a stranding or sinking at the harbor entrance would completely block the entrance and make the harbor unavailable for commercial or military vessels.

The second entrance will alleviate present port congestion and will improve sanitary conditions within the harbor.

ENLARGEMENT OF KAHULUI HARBOR

Priority assignment

Recommended Priority No. 1.

To be completed by late 1957.

Statement

The present turning basin at Kahului Harbor is not large enough to provide a safe area for turning vessels. This is particularly true in the case of light-draft vessels attempting to dock during periods when the prevailing winds increase in force. Considerable difficulty has been experienced in the past, and a number of vessels have suffered delays and damage.

Here again, serious damage to a vessel resulting in sinking or stranding within the existing basin would close the port of Kahului to commerce, thereby restricting entirely the movement of cargo in and out of the island of Maui.

DEEPENING OF HONOLULU HARBOR

Priority assignment

Recommended priority No. 2.

Authorized, no funds available.

Statement

With the increasing size of vessels, particularly passenger vessels, calling at Honolulu, it has become imperative that the harbor be deepened.

At the present time, passenger vessels up to 34,000 tons call at Honolulu. Two new passenger vessels of 40,000 tons each are presently under construction and will be calling at Honolulu by 1960.

The increase in the size of vessels is not limited to passenger vessels. Tankers and bulk carriers have increased drastically in size during recent years and the servicing of these vessels when they call at Honolulu for fuel and/or stores is an important part of the everyday business of Honolulu's steamship industry, and is a contributing factor to the economy of Hawaii.

HONOLULU HARBOR ANCHORAGES

Priority assignment

Recommended priority No. 3.

Original study completed, additional study requested.

Statement

In view of the anticipated development of Honolulu Harbor in the direction of Keehi Lagoon, and the desirability of a protected anchorage, further study of this project is considered desirable.

HILO HARBOR TIDAL WAVE SEAWALL

Priority assignment

Recommended priority No. 4.
Study to be completed late 1957.

Statement

The purpose of this survey was to consider the construction of a seawall in Hilo Harbor to protect the downtown business area of Hilo from damage as the result of tidal waves and excessive high seas. This study was prompted by damage and loss of life suffered during the tidal wave of 1946.

HARBORS FOR LIGHT-DRAFT VESSELS

Priority assignment

Recommended priority No. 5.
Study started January 1951; suspended October 1951; no funds available for completion; $18,700 has been expended out of $80,000 required.

Statement

The Hawaiian Islands located in the Pacific Ocean 2,500 miles from a major land mass have eight principal islands located in a line running northwest by southeast for a distance of about 300 miles and have a coastline of over 1,000 miles. It is apparent that the use and operation of small boats in the island chain for commercial fishing, for interisland transportation of goods, for recreation, and for sport fishing is an important part of our community living.

It must be borne in mind that a small boat venturing out of any harbor in Hawaii immediately enters the open Pacific Ocean. The rugged coastline of the islands does not afford comparatively safe bays, sounds, and inlets in which to cruise and is not conducive to safe anchorages.

The trade winds that blow some 80 percent of the time seasonally will exceed 25 miles per hour with gusts to 35, or over. Our peak wind velocity has been recorded at only 62 miles per hour, a far cry from the hurricane winds in other parts of the country, but the open seas, with our winds at these velocities, are quite dangerous to small boats, due to some extent to the funneling action in the island channel.

Beyond the safety factor of harbors of refuge is a plan often discussed of establishing in the islands a roll-on roll-off ferry system using harbors to be developed for the shortest runs between the islands. This service will greatly enhance development of the outer islands in the Territory.

The Federal Government has never authorized construction (only surveys) of any harbor for light-draft vessels in the Territory of Hawaii. The Territory, on the other hand, has built all existing facilities for light-draft vessels and has authorized over $1 million for new developments. This money in itself is insufficient to build the needed harbors, but does constitute our people's interest, and possibly their contribution toward completion of these harbors, so badly needed from the standpoint of safety of property and lives and for the healthy development of boating in Hawaii.

HILO HARBOR LAVA BARRIER

Priority assignment

Recommended priority No. 6.
Authorized, no funds available.

Statement

The purpose of this study is to determine the feasibility and effectiveness of barriers to divert the flow of volcanic matter away from Hilo Harbor.

KEWALO BASIN AND ALA WAI YACHT HARBOR

Priority assignment

None.

Statement

This project was authorized by section 110 of the River and Harbor Act of May 17, 1950. A preliminary examination was funded at $5,200 and a favorable report submitted. A survey was authorized by the Board of Engineers on May 7, 1955. No funds have been made available for this survey.

The Territory of Hawaii since 1947 has expended over $900,000 on this project and estimates $750,000 needed to complete the Ala Wai Yacht Harbor. No estimates are available for the necessary breakwaters for Kewalo Basin.

ADDITIONAL STUDIES RECOMMENDED BY ISLAND INTERESTS

1. KAUNAKAKAI HARBOR, MOLOKAI

Authorized, no funds available.

Statement

The island of Molokai does not have a deepwater port capable of serving overseas vessels. It is thought by many that the development of such port would, in turn, permit development of the island of Molokai.

2. LAHAINA HARBOR, MAUI

Authorized, no funds available.

Statement

Both Matson Navigation Co. and American Factors have announced plans for construction of substantial tourist resort areas in the area adjacent to Lahaina. Additionally, this small picturesque community is considered by many as having future potential for the development of small boating and fishing.

3. KALAUPAPA LANDING, MOLOKAI

Authorized, no funds available.

Statement

Kalaupapa Landing serves the Hansen's disease settlement. The study has been requested to determine feasibility of improvement.

(For maps in this exhibit, see committee files.)

Mr. KLUCZYNSKI. Thank you, Mr. Titus. Our next witness will be Capt. Jack Bertrand. Give the reporter your name and whom you represent.

TESTIMONY OF CAPT. JACK BERTRAND, REPRESENTING THE CHAMBER OF COMMERCE, THE PROPELLER CLUB OF THE UNITED STATES, PORT OF HONOLULU, AND THE MATSON NAVIGATION CO.

Captain BERTRAND. Mr. Chairman and members of the Public Works Committee of the House of Representatives, I am Jack Bertrand, representing the chamber of commerce, the Propeller Club of the United States, port of Honolulu, and Matson Navigation Co. I will not take too much of your time.

I think that this is out of your jurisdiction, but I would like to request that appropriation be granted for the repair of the breakwater at Nawiliwili. I would like to point out the condition of Nawiliwili Harbor so that you can take back to the people of the Appropriations Committee information on the urgency of an appropriation to repair the breakwater. The colonel did not fully cover this subject.

This land [indicating on the map] which was built up from the dredged material from this area [indicating on the map] covers 21 acres, and is being washed away. Repairs to the breakwater should get under way in very short order because of the seasonal convergence of damaging waves in this area. Waves get in back of the breakwater, causing erosion along the beach, and undermining the new fill which was just built. I would like to call your attention to

the need of the Corps of Engineers for funds for the breakwater. I will not take any more of your time.

Mr. MACK. Captain, has this project been completely authorized?

Captain BERTRAND. Yes; according to the Corps of Engineers repairs are authorized. You see, in 1954, we lost 72 feet and in 1955 we lost a little more, and this year, more. We are not too concerned over the loss at the end, but we are greatly concerned about the damage along the center of the breakwater. The main structure is being undermined by heavy waves. The Territory is asking the Corps of Engineers to undertake the repair of this portion [indicationg on the map]. Thank you, gentlemen.

Mr. KLUCZYNSKI. Thank you, Captain. I believe everyone present knows and is familiar with our work in Congress. I want you to know that we are only a part of the committee in the House of Representatives. When we get back to Washington, we will make a report to the full Committee on Public Works on our inspection trip here. Our recommendations are usually adopted by the Appropriations Committee. Our next witness will be Mr. Bill Thibadeau. Give your name to the reporter and whom you represent.

TESTIMONY OF BILL P. THIBADEAU, REPRESENTING AMERICAN BUREAU OF SHIPPING, HONOLULU CHAMBER OF COMMERCE, PROPELLER CLUB OF UNITED STATES, PORT OF HONOLULU

Mr. THIBADEAU. Mr. Chairman and members of the Public Works Committee, I am Bill P. Thibadeau, subcommittee chairman, pier facilities, Honolulu Harbor, and also a representative of the American Bureau of Shipping. I also represent the Chamber of Commerce of Honolulu and the Propeller Club of the United States, Port of Honolulu.

I would like to clarify one point. One of you gentlemen asked Colonel Hatch for the total tonnage and from his chart the figure for 1956 was given as 2,152,000 tons. Here, in 1956, we have 3 million and in addition 277,000 Army tonnage compared to the 2,152,000-ton figure Colonel Hatch gave you.

Mr. MACK. Does that figure represent imports?

Mr. THIBADEAU. Imports only.

To go into a little detail, this harbor is used not only by ocean-going ships. Also, our interisland shipments must come in by barge from Kauai as well as the other islands of Molokai, Lanai, Maui, and Hawaii.

Shipping is conjested at sea, outside the harbor, as well as in the harbor itself. Ships attempt to make the passage in the night in order to get into the port early in the morning to start discharging. So we have congestion here from about 5 o'clock in the morning until all ships are in.

We have plans for construction in this area here for Territory piers which will cause further conjestion. Here we have private piers, and in this area there are the Army piers. Right in this area [indicating on the map] there is a small pier which at the present time is not in use.

The intent of this proposal for a second entrance channel is to relieve congestion at this point [indicating on the map]. We have

not decided what the traffic pattern will be. As was pointed out, at one time 2 years ago, the channel was completely blocked right at this point [indicating on the map] and the harbor was tied up for days.

Much military equipment comes through the harbor. The blocking of the harbor again will mean that the military will not get necessary supplies. During the war this area (Sand Island) was used by the Army for military supplies. Should it be blocked, during time of conflict, commerce would be at a standstill. On the other hand, if Pearl Harbor should be blocked to Navy ships, the Honolulu Harbor would serve as a staging area until Pearl Harbor could be put in use again.

Mr. DOOLEY. How wide is that channel?

Mr. THIBADEAU. Right here [indicating the channel of Honolulu Harbor on the map]?

Mr. DOOLEY. Yes.

Mr. THIBADEAU. 400 feet. Another point, if this area [indicating on the map] reverts to the Territory for port facilities and is rezoned for industry, a second entrance would be imperative.

Mr. MACK. It is my understanding that imports and exports including interisland cargo total some 5 million tons.

Mr. THIBADEAU. Yes. Relative to future expectations, we made a forecast on the population and cargo increases in 1962 and estimated 4,300,000 tons coming into this harbor alone. This is all commercial cargo, no military ships. The population of Hawaii in 1957 is 551,000. It is estimated that by 1965 the population will increase to 650,000.

Our problem is to provide pier facilities and to resolve the very much bigger problem of eliminating congestion in the harbor.

Another authorized study, as Colonel Hatch mentioned, is deepening the Honolulu Harbor. We now have a 40-foot channel here to this point [indicating on the map]. The project calls for a depth of 40 feet from here to the channel [indicating on the map] and 45 feet in the channel.

In 1960, it is estimated that 240,000 tourists will visit Hawaii annually a large percent by surface craft. With the increasing size of vessels, particularly passenger vessels, it becomes imperative that the harbor be deepened. We will go through the same problem there. Ships coming in here [indicating on the map], using this turning basin, have to turn about to the left. We have a one-way entrance. Due to the limited access, a casualty such as the stranding or sinking at the entrance, would completely block the entrance and make the harbor unavailable for commercial or military vessels.

There is a third project. There are no funds available for an anchorage area here [indicating on the map]—I stand to be corrected. There had been a study at one time. We request that the studies be opened again; one to provide safe anchorage for vessels carrying explosives. The present anchorage in this area [indicating on the map] is unprotected and unsuitable for handling explosive cargo because of the wave and surge action.

Mr. HULL. When you dredge the basin, what is taken out, silt or what?

Mr. THIBADEAU. Silt and coral.

Mr. HULL. Is the dredging of silt more expensive than dredging coral?

Mr. PALMER. Generally not, sir. Our recent bid for coral at Kawaihae was 60 cents a cubic yard, but price is dependent upon the formation and if blasting is required. In most cases coral bottom will require only a rotary cutter. The dredging prices range from 60 cents and up.

Mr. SCUDDER. How much would it cost to remove silt?

Mr. PALMER. Sometimes as low as 40 cents a cubic yard, but I am not sure of that figure.

Mr. KLUCZYNSKI. Thank you, Mr. Thibadeau, for your wonderful statement to the committee. Our next witness will be Mr. William Hull.

Give the reporter your name and whom you represent.

TESTIMONY OF WILLIAM HULL, REPRESENTING CASTLE AND COOKE AND THE HONOLULU CHAMBER OF COMMERCE

Mr. WILLIAM HULL. Mr. Chairman and members of the Public Works Committee, my name is William Hull, and I am representing Castle and Cooke and the Honolulu Chamber of Commerce. One point which Mr. Titus did not bring out in his presentation is the order of developing future projects. Naturally, on each island there are projects which are more important than others. In the past 2 or 3 years we have gone before the Appropriations Committee in Congress asking for funds on certain projects in the islands.

There are 12 different chambers of commerce in Hawaii. At this time I am representing the Honolulu Chamber of Commerce. We have also an organization called the Associated Chamber of Commerce which all the individual chambers of commerce belong to. In the past 2 or 3 years we have received a signed priority list which in their opinion shows the top priority for projects in the Territory. Of those in the first category, two have been authorized for construction. Of greatest importance, however, some of those in the early planning stage are without funds.

They have assigned me to talk on the Hilo Harbor here. I will be brief on this project at this time since you will have a hearing in Hilo, and the people there will apprise you of their problems in more detail than I intend to do here. May I have the picture of Hilo Harbor please [statement directed to the slide operator].

Hilo Harbor, as Colonel Hatch has pointed out, was severely damaged during the 1946 tidal wave, and many lives were lost. The breakwater was also severely damaged and needed extensive repairs. Hilo Harbor has quite a few problems.

In my appraisal of the authorization for studies for which there are no funds, I think it would be beneficial to have the authorization for Hilo Harbor include all the projects that are involved in that area, including the seawall project which is now being studied.

There is one problem dating back to the early days. For some reason or other the Federal project stops at this point [indicating on map] far from the Territory's pier. That fact was not realized until the tidal wave came along and a project was initiated to dredge out the material that was deposited in the harbor. The Corps of Engineers stopped here [indicating on the map] and the Territory had to

take this part [indicating on the map] of the problem. The question of changing the project line should be reopened to include that phase of it.

Colonel Hatch mentioned the surge problem which is a large one. Studies to resolve this problem will take considerable funds. About the only way to solve it is by having a model study made. Funds have never been provided for it.

Another problem involves the volcano, Mauna Loa, which is 13,000 feet in elevation and is active periodically. Lava flows are a constant threat. In 1953 a lava flow went over 40 miles and stopped just above Hilo so there is a real threat to Hilo. One of the reasons for the Kawaihae project is that if Hilo Harbor were destroyed by lava flow, there would be a second harbor. Also, the military, the Army and marines, have a training area between the two mountains here [indicating on the map]. This will be served now by the Kawaihae Harbor rather than the Hilo Harbor.

I don't want to take too much of your time. As I said, details of the Hilo Harbor will be presented by the people of Hawaii.

Mr. SCUDDER. Just a second, please, I have a question. In regard to Honolulu Harbor you showed the importance of deepening the harbor. It is my understanding that a survey was authorized and $20,000 expended sometime prior to 1950.

Mr. WILLIAM HULL. The part of Honolulu Harbor that has been authorized is one of two projects. Fifty thousand dollars were allocated for the second entrance channel this year, and another $58,000 were requested of your Appropriation Committee for the fiscal year 1959.

Mr. SCUDDER. Was that for the deepening of the Honolulu Harbor?

Mr. WILLIAM HULL. The deepening has not yet been studied.

Mr. SCUDDER. I understand that the Army engineers will provide $28,000 for the studies; is that correct?

Mr. WILLIAM HULL. Yes, sir.

Lieutenant Colonel HATCH. As I understand it, this year the Territory harbor projects have approximately $16,000 allocated, $10,000 of which is for the study of Kahului Harbor, the enlargement of the turning basin, and $5,000 of which is for the study of the landing here at Kalaupapa.

Mr. SCUDDER. No money has been allocated for this project to date, although it has been authorized, a matter of 10 years or more?

Lieutenant Colonel HATCH. Frankly, there are a lot of problems here that could be studied for which we have been unable to secure sufficient allocation of funds.

Mr. SCUDDER. The committee will try to be helpful to you.

Mr. KLUCZYNSKI. Are there any questions? Mr. Dooley?

Mr. DOOLEY. No questions.

Mr. PALMER. I would like to correct one thing, the study for deepening of the Honolulu Harbor was authorized about a year ago.

Mr. KLUCZYNSKI. Thank you. Our next witness will be Capt. Jack Bertrand.

TESTIMONY OF CAPT. JACK BERTRAND—Resumed

Captain BERTRAND. Mr. Chairman and members of the committee, I am Jack Bertrand, member of the Propeller Club of the United

States, Port of Honolulu, and I am representing the Matson Navigation Co. As you know, Matson Navigation Co. is the principal user of the harbors in Hawaii.

I will not take too much of your time since there will be a hearing on Maui. I just want to emphasize what Colonel Hatch has mentioned here on Kahului Harbor. May I have the map of Kahului Harbor please [statement directed to the slide operator]. Actually any type vessels making an approach may have difficulty, especially light-draft vessels, in getting up to this pier [indicating on the map] and in getting away. In backing around to go out, we find ourselves deep down in this area [indicating on the map]. That is the reason we need this area [indicating on the map] dredged. I don't think there is any more to say about Kahului Harbor. When you have your hearing on Maui the people there will give you more information. Thank you.

Mr. KLUCZYNSKI. Thank you, Captain. Our next witness who will speak on small-boat harbors will be Mr. George Goss. Give your name to the reporter and whom you represent.

TESTIMONY OF GEORGE P. GOSS, REPRESENTING HONOLULU CHAMBER OF COMMERCE AND PROPELLER CLUB OF THE UNITED STATES, PORT OF HONOLULU

Mr. Goss. Mr. Chairman and members of the Public Works Committee, my name is George P. Goss. I represent the Honolulu Chamber of Commerce and the Propeller Club of the United States, Port of Honolulu. I have been asked to present to you the story of the small-boat harbor problem in the Territory of Hawaii.

First, we wish to thank you for your understanding of our problems evidenced by the support you have given us in the past. We hope that your support for small-boat harbors, however, will expand beyond the study stage. Our presentation is made with this in mind. We shall develop points made in the statements presented in the brochure you have been given, and will try not to repeat ourselves.

My report is actually a review of two authorizations for preliminary examinations and study in section 110 of the Rivers and Harbors Act of 1950, Public Law 516, 81st Congress, 2d session, approved May 17, 1950. The first was titled "Coasts of the Hawaiian Islands, Territory of Hawaii, With a View To the Establishment of Harbors for Light-draft Vessels for Refuge and Other Purposes." The second was "Kewalo Basin, Honolulu, Territory of Hawaii, Including Ala Wai Yacht Basin."

The former preliminary examination called Harbors for Light Draft Vessels, Coasts of the Hawaiian Islands, by the United States Army engineers, was started in January of 1951 with an allocation of $18,700. In October of that year the study was suspended for lack of funds. At that time it was estimated that $80,000 would be needed to complete the study. No funds have been allocated since for this study.

A glance at the map of the Hawaiian Islands, showing existing harbors, will show great lengths of coastline with no harbors at all. Starting with Kauai we find but one harbor with any facilities at all

for small boats—Nawiliwili, although Port Allen can be used for refuge. Oahu is in fairly good shape, but here additional facilities are needed in the vicinity of Koko Head and Kailua. Molokai has but one harbor which is not at all safe in some weather. Maui has small-boat harbors at Maalaea and Lahaina, both difficult to enter at times. The island of Hawaii lost most of the harbor at South Point in a storm. The other harbors listed on Hawaii are good harbors of refuge.

Long distances between harbors coupled with the wind and sea conditions often make dangerous otherwise safe ocean trips. The attached statement, dated October 31, 1957, by the Honolulu office of the United States Weather Bureau (appendix 1) (Entered in the record as Honolulu exhibit D) will give an indication of the sea conditions around these islands. During this time of the year you are likely to notice fairly calm seas and light winds. I will not state that this is "unusual" weather, but I can confirm that it is not necessarily representative of the Hawaiian trade winds that blow most of the year. Most boatowners who have sailed or cruised across the Pacific from California contend that the roughest seas encountered are off these islands.

After flying over the islands on your inspection trips, you will be very familiar with the rugged coastlines of each island. The slides I have prepared for you give some indication of the shoreline facing a boat in trouble. There are miles and miles of such coasts with either cliffs falling into the water or sharp reefs off shore. Bays and inlets into which boats can navigate for either pleasure or refuge are few, and often dangerously far between. Even some of the presently developed harbors, due to lack of sufficient funds when they were built, are unsafe in some types of weather.

Due to the local conditions of water and coastline, it is not expected that boating, as a family sport, will experience in Hawaii the phenomenal 300 percent growth that it has experienced in the continental United States during the last 10 years. Given safe harbors in which to cruise and places for refuge, there is still, however, much room for expansion of the boating industry in Hawaii.

We are not overlooking the problem of the commercial fisherman, for his livelihood is at stake as well as his life. The same problems besetting the recreational or the sport fisherman affect to a greater extent the commercial fisherman—an important segment of Hawaii's economy. It is likely that the attached letters from representatives of the following major fishing associations will well express to you their viewpoint: The Tuna Boat Owners' Association (appendix 2) (entered in the record as Honolulu exhibit E) and the Honolulu Ahi Boat Owners' Association and the Wewalo Deep Sea Boat Association (appendix 3) (entered in the record as Honolulu exhibit F).

At this time I would also like to present for the record statements from the Chief Justice of the Territorial Supreme Court, Philip L. Rice, ex-commodore of the Kauai Yacht Club as (appendix 4) (entered in the record as Honolulu exhibit G) Mr. Dudley C. Lewis, attorney, president of the Big Game Fishing Association (appendix 5) (entered in the record as Honolulu exhibit H). Mr. Herbert H. Hart, general manager, Hawaiian Tuna Packers, Ltd. (appendix 6) (entered in the record as Honolulu exhibit I), and Mr. H. R. Jordan, commo-

dore, Kaneohe Yacht Club (appendix 7) (entered in the record as Honolulu exhibit J).

(Exhibits D, E, F, G, H, I, and J, letters will be found in committee files.)

Mr. Goss. Further use of additional small-boat harbors in the Territory can be foreseen in connection with the project that has been given some consideration by local interests to develop an interisland, modern ferry system. One proposal has envisaged harbors at the closer points of each of the islands in the chain, connecting with a road network across the length of the island. A type of roll-on, roll-off ferry would be developed with separate ferries connecting each of the islands. When it is considered that all interisland freight must now move on barges over the rough channels and long distances between the islands' major ports, and all passenger transportation must now move by air, it can be realized that such a system is not without the realm of possibility in the future. Any study by the district engineer will take into account such possible plans and their great benefit to the development of the outer islands.

To recapitulate, your continued interest in this project study is requested. We solicit your assistance in obtaining for this district the allocation of study funds necessary to complete the study, and we hope for your favorable consideration of construction authorization of those harbors if the study proves economically and beneficially feasible. The Kewalo-Ala Wai project is a step nearer fulfillment. The preliminary examination has been completed with a favorable report. The survey awaits allocation to this district of the estimated requirement of $20,000.

It is our understanding that Federal participation in these harbors would be limited to completion of channel dredging and construction of jetties and breakwaters. Both channels at present are very dangerous for small boats when the surf is running high and both have often been closed to all traffic, due to the surf breaking completely across the channels. Numerous craft have experienced engine trouble in the channels and have been washed by the current onto the reef, either partial or total losses. Since about 1949 the number of major craft lost amounts to about 5 with a total replacement value of over $150,000. Last year one sailboat was swamped and sunk right in the middle of the Ala Wai channel by surf that did not appear particularly dangerous.

Since it does appear that Federal participation will be warranted, we should like to suggest inclusion in the 1958 Rivers and Harbors Act, provisions for the authorization of construction of the two harbor channels, as recommended in the compiled survey report.

Before closing, we should like to refer to the 1957 session of the Territorial legislature which authorized construction and improvement projects for small-boat harbors in the Territory aggregating over $1,040,000. This clearly shows the interest of the people in the Territory in the problem; however, the appropriation exceeds the Territory's bonded limit and funds may not be available for some time.

The boatowners themselves are not unaware of their need to contribute. At the urging of boatowners a few years ago, a bill was passed by the Territorial legislature, placing in the small-boat-harbor

fund all the moneys collected by the Territory from fuel taxes paid by boat operators. This may be contrasted with the laws of most States which allow rebates to the boatowners of part or all of these taxes. The Territorial harbor board collected in its small-boat-harbor fund last fiscal year some $137,000 operating income. Their operating expenses were about $76,000 leaving some $61,000 which was spent for capital improvements.

We realize that these projects constitute but two of the urgently needed harbor and waterfront projects in the Territory of Hawaii. We hope that we have helped depict the need for additional and continual allocation of study funds for these projects until all studies are completed. We further hope that we have given you some insight into the problems, insight that will be of value when the projects come up for authorization. Thank you for this opportunity to appear before you.

Mr. KLUCZYNSKI. Please hand the statements to the reporter to be incorporated in the record.

Mr. MACK. May I ask from which direction the damaging winds usually come? If my memory serves me correctly, they come from up north.

Mr. GOSS. I believe that is correct, sir.

Mr. KLUCZYNSKI. I noticed that you mentioned the interest in pleasure boats. About how many pleasure craft do you have here?

Mr. GOSS. From information obtained from the harbor board, there are approximately 3,000.

Mr. KLUCZYNSKI. You may submit the figures later; the record will be open for about 2 or 3 weeks. I was surprised to learn of the tremendous advance of interest, on the mainland, in pleasure craft and sports fishing. The Committee on Merchant Marine and Fisheries, at a recent meeting, revealed that over 20 million people are taking advantage of that sport. We are in the process of making a survey so that we can pass new regulations to help those using pleasure craft.

Mr. CRAIG. The increase here in boating seems to be about the same as on the mainland. I believe it would be more except for the fact that we are lacking in harbor facilities.

Mr. KLUCZYNSKI. Thank you, Mr. Craig. Any further questions to Mr. Goss? No further questions. Thank you, Mr. Goss. We are happy to know that the refunds here are being put into a fund for pleasure boating.

Mr. GOSS. We point with special pride to the interest our local citizens have in improving harbor facilities and how they propose to assist boating interests.

Mr. KLUCZYNSKI. We are glad to hear that. Thank you, Mr. Goss. Our next witness will be Mr. Lennox. Give your name and whom you represent to the reporter.

TESTIMONY OF COLIN G. LENNOX, TRUSTEE, JAMES CAMPBELL ESTATE

Mr. LENNOX. Mr. Chairman and members of the Public Works Committee, my name is Colin G. Lennox, trustee of the James Campbell estate. We have placed in your hands this morning a brochure (entered in the record as Honolulu exhibit K) that outlines a pre-

liminary plan for industrial expansion at Barbers Point. I might say in advance that this proposal for a new harbor was made after studies had been made by local departments to determine the required area for an ideal center. Until recently, only slight interest had been shown in such a development. But since Standard Oil Co. selected 300 acres and earmarked expenditures amounting to $40 million for the development of a refinery, there has been considerable interest in acquiring land for heavy industry in that area. The refinery will not be dependent upon a harbor since they are planning their own offshore loading and unloading facilities.

There are some 1,200 acres suited to industrial development, and it seemed quite logical to the investigating department that a harbor should be developed also at this stage, which they recommended from a community interest point of view. The committee recommended that appropriation be considered for the United States Corps of Engineers to make a study of the economic feasibility of developing a new harbor at this location.

In regard to a new harbor, let us consider the regions tributary to the harbor. Let us take a look at the large map showing the plans. The Campbell estate is one of the tributary areas. The area colored in green is Pearl Harbor west lock. This color is under the ownersip of James Campbell estate. This area was condemned by the United States Government for the United States naval air station; the industrial area is here [indicating on the map]. The proposed harbor will have about the same approach as Honolulu Harbor and will be about the size of Kawaihae Harbor.

A 5,000-foot buffer zone is to be set aside with the recommendation that some day it will be needed to support heavy industrial development and other noxious industry. There are vast opportunities in this area [indicating on the map] for outward expansion. The present plans for a community of 25,000 people may easily be developed to a city of 75,000.

The development of a major community in this area would take much of the pressure off of the present Honolulu Harbor. A look at the island of Oahu shows that the area tributary to Barbers Point Harbor area includes all the major sugar plantations and most of the pineapple.

Those are broad details which we have presented here for estimating the value of such a harbor. More complete information is not available now but we present this report at this time knowing that it is a golden opportunity for the members of the committee while you are here in Hawaii to see the local situation which is something we have to plan on a long-range viewpoint. It will likely become necessary to have a preliminary study made within the reasonable future to study the economic feasibility of such a project. We have estimated that $10,000 is needed for such a study, so I have taken the opportunity to give you this brochure and to call it to your attention while you are in Hawaii. Should this matter seem feasible to you we would be happy if you would give it the necessary support or should it come to you later you would be familiar with the facts. If there are any questions, I will try to answer them.

(Map and pertinent matter from exhibit K follow:)

FEASIBILITY OF A NEW HARBOR AT BARBERS POINT

NOVEMBER 11, 1957.

HONORABLE MEMBERS, PUBLIC WORKS COMMITTEE,
House of Representatives, United States 85th Congress,
Washington, D. C.

GENTLEMEN: The need for land areas for industrial expansion on Oahu for the growing economy of Hawaii is well recognized. Coincident with the growth will be the need for additional harbor facilities to supplement Honolulu Harbor.

The trustees of the estate of James Campbell are presently engaged in the development of over 1,200 acres of land at Barbers Point that has been zoned for industrial use. The Standard Oil Company of California has selected a site in this area for the erection of a $40 million refinery. The need for a harbor here has been anticipated with the further growth of heavy industry in the area and a site has been reserved for this purpose.

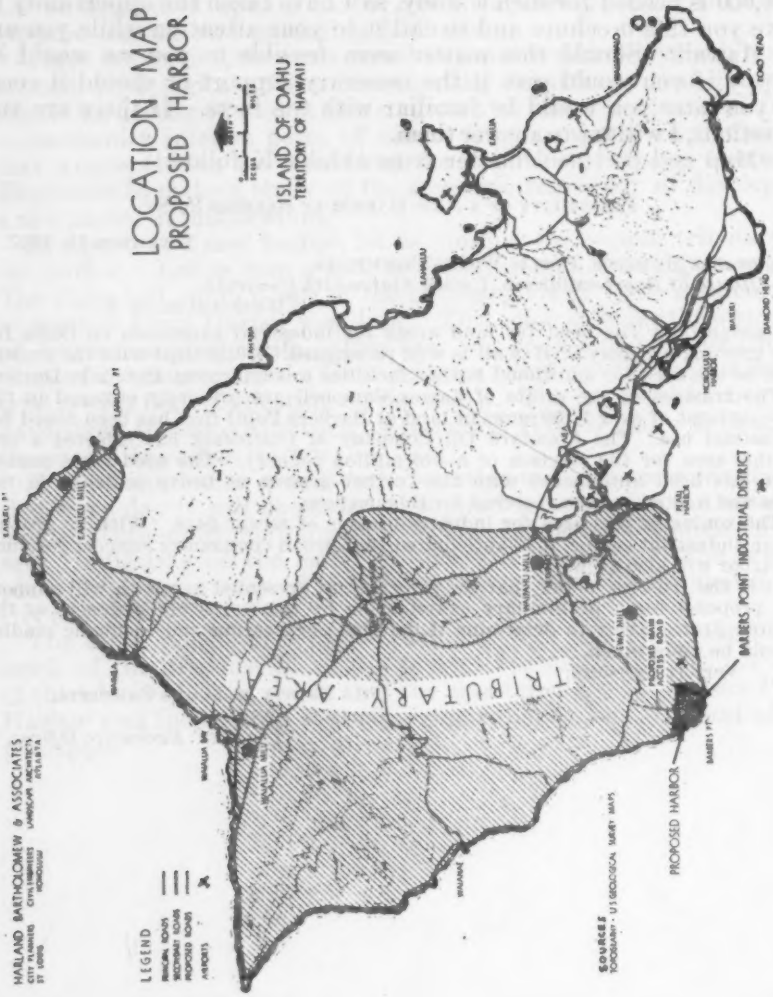
The zoning of this area for industrial use is of recent date. With its growth as an industrial center, it is anticipated that broad community support for such a harbor will also grow.

It is the trustees' belief that the information presented herewith will support the proposal for a preliminary examination by the Corps of Engineers of the United States Army to determine if detailed engineering and economic studies should be undertaken.

Very truly yours,

THE ESTATE OF JAMES CAMPBELL,
COLIN G. LENNOX,
Trustees' Executive Officer.

PLATE 4


LOCATION MAP
PROPOSED HARBOR
ISLAND OF OAHU
TERRITORY OF HAWAII
TRIBUTARY AREA
BARBERS POINT INDUSTRIAL DISTRICT
PROPOSED HARBOR
LEGEND
SOURCES
HARLAND BARTHOLOMEW & ASSOCIATES

A Planned Industrial District at Barbers Point

The estate of James Campbell is completing plans for the development of a carefully designed industrial district at Barbers Point. The location is shown on plate 4. The plate also indicates the area which would be generally tributary to the proposed harbor. The tributary area will be discussed in further detail in chapter III.

The new district will be the industrial counterpart of a planned residential subdivision, providing for the orderly development of a community of industries under such control as will enhance their esthetic appearance and their operating efficiency. Advantages to prospective manufacturers include attractive and immediately available sites, proper zoning for industrial use, and utilities installed or under construction. From the community viewpoint, the development of a relatively large parcel of land permits the community to segregate industrial activity into a desirable location where it can be better controlled. As presently contemplated, the industrial district will require off-street loading facilities, sufficient parking space, adequate setbacks and landscaping of premises. The final product will be a considerable asset to the community.

The Barbers Point location is perhaps the most well-suited for medium and heavy industrial use on the island of Oahu. Among the advantages offered by the Barbers Point industrial district are:

1. Availability of large areas of land not already built upon, and presently of low economic return to the Territory.
2. Absence of adjacent land uses which would be incompatible as neighbors to heavy industrial uses.
3. Prevailing trade winds which will carry any smoke and fumes out to sea, obviating expensive treatment procedures.
4. A dry climate allowing outdoor storage and minimizing construction costs.
5. Solid foundation for any industrial land.

The Barbers Point industrial district is located 22 miles from downtown Honolulu; a commuting time of 40 minutes will be required for workers from Honolulu. However, as development proceeds, areas in Ewa and Waianae, including the upper Honouliuli plateau area, will develop in residential use. With such residential concentration in the vicinity of Barbers Point, the new industrial district should prove attractive to all types of industries both light and heavy, and including those with high employment concentrations. The district will be developed in logical stages to allow the greatest flexibility in lot sizes.

Among those industries which appear well suited for location in the Barbers Point district are:

1. Steel scrap furnace and rolling mill.
2. Cast-iron pipe foundry.
3. Oil refinery.
4. Chemical plants: Anhydrous ammonia, fertilizer, hydrochloric acid, insecticides, and wax.
5. Lead smelter.
6. Steel oil drum reconditioning plant.

At the present time, approximately 1,230 acres of land are zoned for industrial use at Barbers Point and as much as 1,575 acres are suitable for industrial use (including the harbor area). Logical boundaries for the industrial area are formed by Naval Air Station Barbers Point on the east, an aircraft approach zone on the north and the ocean on the south and west. This industrial development will not encroach upon productive agricultural land; in fact, it is ideally suited for industrial use.

The report "Land for Industry in Hawaii" prepared for the Economic Planning and Coordination Authority of the Territory of Hawaii in June 1957 concluded that 1,500 acres of land would constitute a prudent reserve for industrial use (both light and heavy industry) over the next 20 years. Thus, the planned industrial district at Barbers Point can provide a land potential equal to demands for heavy industrial sites on the island of Oahu within the foreseeable future.

A harbor at Barbers Point, in conjunction with the industrial district, would allow the establishment of industries in the Territory which might otherwise not be economically feasible. An area for harbor development, including a 350-foot wide strip for harbor facilities and the surrounding industrial lots, will be reserved from use until the feasibility of a harbor can be definitely established.

JUSTIFICATION FOR A NEW HARBOR AT BARBERS POINT

Honolulu Harbor

At the present time, the only protected deep-water port on the island of Oahu available for civilian use is Honolulu Harbor. Honolulu Harbor, located on the south coast of the island, is in part a natural harbor as coral growth was restricted by fresh water from Nuuanu Stream. Fifty-one wharves and two small ferry landings are located in Honolulu Harbor. The entrance channel is 800 feet wide and 4,000 feet long with a controlling water depth of 40 feet. The Kapalama turning basin is 3,000 feet long, and 600 to 1,000 feet wide, and the water depth is 35 feet. Honolulu Harbor is a regular port of call for 7 steamship lines which operate approximately 75 freight and passenger ships in the port of Honolulu. Honolulu Harbor is by far the most active port in the Territory and handled approximately 4.8 million tons during 1956. Increased facilities are needed for passenger terminals and there are indications that the harbor is congested as evidenced by the recent newspaper clippinps attached as appendix A. A major disadvantage of this harbor is the lack of suitable industrial sites in proximity to it. Heavy industry has need for sites adjacent to harbors, since harbors serve a function similar to railroads on the mainland.

Tributary area

The areas on Oahu utilized for sugar and pineapple production are shown on plate 5, 1956 Land Use on Oahu, which also indicates the location of the proposed new harbor.

All of the four sugar mills presently operating on Oahu would be more readily accessible in both time and distance to the proposed harbor than to Honolulu Harbor and could thereby effect substantial economies.

Plate 4 indicated the area which would be generally tributary to the proposed harbor. Within this area both incoming and outgoing shipments via Barbers Point would be most convenient. Substantial economies could be put in effect through use of the new harbor. In addition, this would ease the present serious traffic congestion adjacent to Honolulu Harbor by the elimination of sugar and molasses trucks. The presently operating pineapple plantations are also more conveniently located to the proposed harbor than they are to Honolulu Harbor.

Need for industrial sites

The economic base of the Territory is extremely sensitive due to its dependence upon (1) the tourist industry, requiring high levels of prosperity on the mainland; (2) defense expenditures, subject to drastic changes due to decisions made outside of the Territory; and (3) the sugar and pineapple industries, both with limited growth potential. In their 1957 midyear report, emphasizing the need for greater diversification, the department of business research of the Bank of Hawaii summarized as follows:

"The economy of Hawaii is still faced with an underlying instability in the sense that the permanent industries of the Territory have not, as yet, expanded to the point that they could provide full employment for the labor force in the event of a sharp cutback in the Defense Establishment."

The economic base of the Territory of Hawaii can be diversified in many ways: new agricultural products and byproducts, mining, additional marine products, all have a role to play. In addition to these, however, all efforts should be made to foster the development of additional manufacturing and processing industries. Among the problems of creating new manufacturing industry is the development of sites which can be offered at prices industry can afford to pay.

The Barbers Point area is ideally suited to medium and heavy industrial use. Since large areas of land can be made available at relatively low prices, the growing importance of the tourist industry favors the removal of noxious-heavy industry from Honolulu proper. The Territory cannot afford not to foster all possible industrial manufacturing endeavor.

Prospective commerce

The sugar production on the island of Oahu for each of the major plantations is shown on plate 6. If sugar shipments were transferred to the proposed harbor at Barbers Point, the annual cargo of sugar alone would total about 200,000 tons. All incoming supplies for plantations such as mechanical equipment, fertilizer, and insecticides could also enter through the proposed harbor.

Regardless of the agricultural and commercial possibilities of freight shipments to the proposed harbor, the major justification must be based upon the

freight traffic which will be generated by the industrial districts itself. The total land in industrial use in the city of Honolulu, as reported by the planning commission in June 1957, was 719 acres. The ultimate development of industry at Barbers Point may very well exceed this acreage. Almost all industries presently operating in the Territory are dependent upon materials shipped from mainland or foreign ports. In addition, raw materials are obtained on the other islands of the Territory. The freight generated by the Barbers Point industrial district may ultimately reach 500,000 tons a year.

Tangible benefits

The construction of a new harbor at Barbers Point will provide many benefits to the Territory of Hawaii and especially to the city and county of Honolulu. Among those which would be assigned tangible value, during a preliminary examination by the Corps of Engineers, number the following:

1. Reduction in transportation costs for industries locating in the Barbers Point industrial district.
2. Reduce the transportation costs to all agricultural enterprises within the tributary area. The tributary area includes all major agricultural enterprises on the island of Oahu.
3. Increasing property values over large portions of leeward Oahu because of the accelerated development of the Ewa and Waianae districts.
4. Value to national defense in that alternate harbor for civilian use is provided in the event that Honolulu Harbor were neutralized by enemy action. The new harbor will facilitate delivery of industrial material to naval air station, Barbers Point, and to industries located in the district servicing aircraft and providing other services to the air station.

Intangible benefits

Among the other benefits, to which it is more difficult to assign a tangible value, number the following:

1. Release harbor facilities in downtown Honolulu needed for conversion to passenger terminals.
2. Supplement Honolulu Harbor and provide needed additional harbor facilities.
3. Allow the removal of major industrial and terminal facilities from downtown Honolulu and foster an improvement in the appearance of the capital city. The new facility will reduce the truck traffic in downtown Honolulu and thus relieve the existing traffic congestion of the major route through downtown Honolulu. The harbor area in central Honolulu could then be redeveloped to enhance its role as a major tourist passenger terminal.

EXISTING SITE CONDITIONS AT BARBERS POINT

Location

The Barbers Point industrial district is located at Barbers Point in the district of Honouliuli on the island of Oahu, T. H. Approximately 1,230 acres were zoned for industrial use on April 4, 1957, by the Honolulu City Planning Commission and as much as 1,575 acres (including the proposed harbor area) may eventually be developed for industrial use. The location map, plate 4, shows the location of the proposed industrial district at the extreme southwest corner of the island of Oahu.

The United States Coast Pilot for the Hawaiian Islands describes the area as follows:

Barbers Point, the southwest point of Oahu, is a low, flat, coral plain covered with algaroba trees. The coast curves gradually and shows a white, sandy beach with dark rocks here and there. The land is level back to the foothills of the Waianae Mountains about 3 miles inland. The slopes of the hills are steep and partly covered with vegetation, the bare red soil showing in places and giving them a noticeable reddish appearance. A light 86 feet above the water and visible 15 miles, is shown from a white cylindrical, concrete tower on the point. A lighted buoy is moored about 1 mile offshore southeastward of the light. The reef extends about 0.6 mile off the point.

Exposure and wind data

The site is on the lee side of the island from prevailing northeast tradewind storms and is also protected from tidal waves which originate, as is most frequently the case, from the north. As shown on plate 7, the wind rose furnished by the operations department of Naval Air Station Barbers Point, the prevailing

breezes are from the northeast and are generally less than 20 knots. The pattern of air movement is remarkably steady.

Foundation conditions

The entire area consists of an emerged coral reef. The coral material is hard except that it is punctured with numerous cavities which have partially filled with various soft material. At the surface of the ground, the cavities vary from less than a foot across to a maximum of about 6 feet.

During the spring of 1957, a series of six borings were placed in the Ewa Plain. A location map and profile of each of the borings is shown on plate 8. Two of the borings were auger borings and the other four were core borings which furnish more reliable information.

Published charts

Barbers Point is shown on the United States Geological Quadrangle Map "Ewa, Hawaii." This quadrangle map is to a scale of 1 to 24,000 or 1 inch equals 2,000 feet and shows 10-foot contours on the flat Ewa Plain area. Hydrographic data includes fathom lines where data is available. The topography is from Plane Table Surveys 1927–30, with cultural and drainage revisions revised to 1953.

Hydrographic data is shown only on United States Coast and Geodetic Survey Chart 4110 which shows the entire island of Oahu at a scale of 1 to 80,000. The south shore of Barbers Point is shown on United States Coast and Geodetic Survey Chart No. 4133 at a scale of 1 to 20,000. This chart does not show the shoreline at the entrance of the proposed harbor.

Tides and currents

The average range of tide is approximately 2 feet. Mean highest high water is approximately 2 feet and lowest tide to be expected is minus 1 foot.

There is a general westward current along the coast between Honolulu and Barbers Point as shown on plate 9 prepared from data furnished by the United States Coast Guard. Off the point, velocities up to three-quarters of a knot, setting westward, have been measured and large velocities have been reported. Tidal currents are generally weak, but the ebb sometimes exceeds one-half knot in Pearl Harbor. The Coast Guard diagram showing currents in Hawaiian waters indicates a weak current north along the west shore of Barbers Point. Kona winds will upset prevailing current.

The pattern of ocean currents, plus the fact that no existing water courses will drain into the proposed harbor, indicate a minor problem of harbor silting. Maintenance dredging will not constitute a serious operating cost.

CONTEMPLATED HARBOR IMPROVEMENT

The proposed harbor as shown on plate 10 consist of an artificial interior basin approximately 1,200 feet square connected to the ocean with a 500-foot wide entrance channel. Detailed studies of the harbor have not been undertaken. The proposed scheme, shown only in schematic form, will allow dock space for at least six medium-sized freighters. A lesser number of larger vessels could be accomodated. The turning basin, providing at least 1,000 feet of clear area, would allow the reversal of ships up to 550 feet in overall length. The Victory ship, a typical medium-sized cargo vessel has an overall length of 455 feet, a beam of 62 feet, and a draft of approximately 29 feet.

A harbor of more modest dimensions than that shown would allow docking of ships but would not allow a turning basin. A design without a turning basin involves considerable difficulties for docking the vessels. The depth of the turning basin has been tentatively set at 35 feet below mean sea level. The entrance channel would commence at a depth of 40 feet below mean sea level and slope upward to the 35 feet below sea level elevation of the basin. The proposal anticipates the eventual construction of a wharf around the perimeter of the basin. A strip 350-feet wide back from the wharf line is reserved to provide for transit sheds and harbor work areas.

The preliminary cost estimate shown on the following page indicates the general size of the harbor project proposed. A more detailed cost estimate cannot be prepared until the project has been subjected to further study.

Preliminary cost estimate

	Quantity	Unit	Unit cost	Total cost
Federal investment:				
Basin and channel dredging:				
Soft-coral rock	900,000	Cubic yard	$0.60	$540,000
Hard- and medium-coral rock	3,200,000	do	1.00	3,200,000
Very hard sandstone	140,000	do	2.30	320,000
Subtotal				4,060,000
Engineering and contingencies, 15 percent				610,000
Total Federal investment				4,670,000
Non-Federal investment:				
Port facilities:				
Bulkhead	4,700	Linear foot	400.00	1,880,000
Finish grading (open storage)	100,000	Square yard	.85	90,000
Paving (including base)	75,000	do	2.15	160,000
Transit sheds	250,000	Square foot	4.50	1,120,000
Subtotal				3,250,000
Engineering and contingencies, 15 percent				490,000
Total non-Federal investment				3,740,000
Total development cost (preliminary estimate)				8,410,000

NOTE.—Does not include: Cargo-handling facilities; water supply and distribution; storm drainage; sanitary sewers, and allowance for increasing costs.

REQUEST FOR PRELIMINARY EXAMINATION

If the Federal Government is to participate in the cost of a harbor, the first step in the analysis of the overall feasibility, both engineering and economic, is the preparation of a preliminary examination by the local district office of the Corps of Engineers. The Corps of Engineers of the United States Army exercises administrative and engineering control over Federal Government expenditures in rivers and harbors construction. A preliminary examination is a relatively modest study designed only to determine if detailed engineering and economic studies should be undertaken. The cost of such a study would not exceed $100,000 and would probably be much less.

It is respectfully requested that authorization for the Corps of Engineers to undertake a preliminary examination of the feasibility of a harbor at Barbers Point, island of Oahu, Territory of Hawaii be included in the next Rivers and Harbors Act of the Congress of the United States. It is also requested that the same appropriation bill include authorization for $10,000 to be expended for this preliminary examination.

(For maps on this exhibit, see committee files.)

Mr. SCUDDER. I would like to ask a question. Could you tell us something about the legend on the map of that area? What does the green area mean?

Mr. LENNOX. This green area here [indicating on the map]?

Mr. SCUDDER. Yes.

Mr. LENNOX. That, at present, is sugarcane. This area [indicating on the map], pasture.

Mr. GRAY. What is the area of the Campbell Estate?

Mr. LENNOX. Thirty-four thousand acres, sir. This area [indicating on the map] was taken out prior to the war, and this area [indicating on the map] is of low quality. Our greatest concern is the protection of our water resources for this area [indicating on the map] for sugar.

Mr. SCUDDER. What is the real-estate value in that area?

Mr. LENNOX. Approximately 77 cents a square foot.

Mr. SCUDDER. Is there a demand for property in that area for residential purposes?

Mr. LENNOX. As of now; yes. But in the past there was not a potable water supply. Within the last few months a contract has been let for the construction of a water system to be carried down here. At that time requests were made for subdivisions to the city planning commission. If this new harbor is authorized and constructed, the plan for residential subdivisions will increase in this area [indicating on the map].

Mr. KLUCZYNSKI. Any questions to Mr. Lennox? No questions. Thank you, Mr. Lennox. At this time I want to thank Colonel Hatch for his wonderful presentation on harbors and the witnesses who have testified here today. Our next witness, who will speak on beach erosion will be Mr. James Wilson. Give your name to the reporter and who you represent.

TESTIMONY OF JAMES B. WILSON, CHAIRMAN, BEACH IMPROVEMENT COMMITTEE AND MEMBER, CHAMBER OF COMMERCE, HONOLULU

Mr. WILSON. Mr. Chairman and members of the Public Works Committee of the House of Representatives. Aloha. My name is James B. Wilson, chairman of the beach improvement committee and a member of the chamber of commerce. I am here today to tell you a little about the beach at Waikiki.

Perhaps you have seen it this morning. We would like to see as it was in the old days.

On July 23, 1953, the Secretary of the Army transmitted to the Speaker of the House of Representatives of the 83d Congress, 1st session, a report (H. Doc. No. 227) dated January 23, 1953, from the Chief of Engineers of the United States Army, together with accompanying papers and illustrations, on a cooperative beach erosion control study of Waikiki Beach, Oahu, T. H. This study was made by the Corps of Engineers in cooperation with the Board of Harbor Commissioners of the Territory of Hawaii. The report recognized that the present sand beach areas constitute scanty remains of the one-time continuous beach at Waikiki. This continuous beach existed prior to and for some time after the construction of the present seawall.

In general, seawalls were built on the then existing beaches near the waterline, thereby allowing the wave action to erode the beach area. There is no single area of remaining beach which is now adequate for weekend and holiday crowds. The report concludes that the required protection to the shore at Waikiki Beach can be provided by an artificially placed beach 75 to 100 feet wide at elevations 6 feet above mean lower low water and that the rate of loss of the fill from the restored beach will be low, so that it may be economically maintained by artificial replacement as needed. A limited number of groins, terraced walls, and drainage appurtenances were also contemplated.

In the opinion of the reporting officers, the prospective benefits warranted the expenditures for suitable protection and improvement measures. They also felt that the extent of public interest involved warranted Federal participation to the full extent of one-third of the cost of the protection applicable to publicly owned portion of the shore.

It should be pointed out at this time that the ownership of the beach frontage at Waikiki was divided into three categories; namely, public,

Federal, and private. As stated above, Federal participation was limited to the improvements facing public beaches. The Federal frontage of Fort DeRussy Beach, which is used almost exclusively by the military services, was denied Federal cooperation by this report. It was pointed out in a letter dated January 28, 1953, from the Board of Harbor Commissioners, Honolulu, to the Department of the Army that the separate development of this segment of the beach or its omission from the overall plan is almost impossible due to the normal littoral drift of sand. The failure to appropriate funds for the beach fronting Fort DeRussy will certainly cause the Territory to pay for it, because the normal littoral drift of sand placed by the Territory will deposit it on an unimproved beach area. Since the likelihood for an appropriation of funds for the improvement of Fort DeRussy Beach through military channels seems remote, it is again requested that reconsideration be given to this section of beach and that Federal Government funds be appropriated for the improvements within this military area.

In regard to the privately owned beach frontage, it is contemplated that agreements will be reached with property owners whereby a set boundary will be established and any area created seaward of this property line will become the property of the Territory. The acquisition of the riparian rights and fixing of property lines, therefore, make any beach so created a public area. The widened beach will permit greater public access to the ocean and the general enjoyment of the beaches and sea by all.

The tremendously increasing number of tourists and the limited amount of sea frontage will require the continuing construction of hotels in the rear of the privately owned beach frontage. Their guests, all wishing to enjoy the beach at Waikiki, walk from their hotels to the beach area. Service personnel, friends of Waikiki hotel guests, visitors of the local people, and portions of the local population flock to the beaches fronted by the privately owned hotels and clubs. It is, therefore, felt that the beach created will be beneficial to the public and service personnel rather than just provide a special value to the adjoining property owners. For these reasons, all predicated on the proper and legal acquisition of all riparian right and fixed property lines, it is requested that consideration be given to extending the participation of Federal funds to the beach fronting private ownership. Such beaches will become as truly public as any others.

The Territory, with the limited amount of funds appropriated by our local legislature, has made two improvements at Waikiki; namely, the improvement at the end of Kapahulu Avenue which consisted of a drainage structure acting as a groin, a terrace wall and the placement of sand, described within the report. The second project which was completed just a month ago is the construction of a groin and the placement of sand in front of the public baths area adjacent to the natatorium and the Queen's Surf. The Queen's Surf area is privately owned, but agreements fixing boundaries and acquisition of the riparian rights for this area have been completed, thereby allowing the project to be financed with public moneys. In accordance with the requirements of the report, detailed plans and specifications were approved.

The Territory through the chamber of commerce is continuing to press for the accomplishment of the entire beach program by a self-financing method of creating an authority. This authority, which could be a separate commission or whose function could be delegated to an existing commission, would be charged with developing and maintaining beaches at Waikiki. In order to pay or repay the cost of such developments and to provide funds for maintenance and operations, the creation of new lands on the offshore areas in the vicinity of the Ala Moana Park and Kapiolani Park has been considered. Certain portions of these areas would be used for commercial purposes and the revenues would be devoted to the paying or repaying of the cost of developments, operations, and maintenance.

If this method is adopted, congressional action will be required to release additional tidal areas at Waikiki to the Territory of Hawaii. The 1957 session of the Territorial legislature authorized bond issues for numerous projects, including the Waikiki Beach improvement. Due to limits set on our bonded indebtedness, projects are being considered on a priority basis. If Federal matching funds are available, it is highly probable that the Waikiki Beach project would receive sufficient priority for accomplishment of the work. The Territory would greatly appreciate your consideration of these matters and hopes that funds may be made available at an early date.

Mr. KLUCZYNSKI. Any questions to Mr. Wilson? No questions. Thank you, Mr. Wilson. Again, I want to thank Colonel Hatch of the Corps of Engineers for his wonderful presentation and also the members of his staff. Secondly, it is most gratifying to me, and I am sure to the rest of the committee, to hear the outstanding presentation given to this committee this morning. The data you have presented on the various projects have been brief but most informative. I think that this is one of the best hearings I have ever attended. The friendliness of the islands has engulfed me.

Being aware of your problems we are in a better position to serve you and work with you. All of your testimonies have gone on record and when we get back to Washington your problems will be taken up with the full Committee on Public Works.

Tomorrow the hearing will be on flood control, highways, and public buildings. Have we heard every one on rivers and harbors, small boats, and beach erosion? Good. The meeting is adjourned.

Exhibit received after the hearing:

Submitted by Mr. George E. Goss (entered in the record as Honolulu exhibit L).

PUBLIC WORKS PROJECTS OF HAWAII

TUESDAY, NOVEMBER 12, 1957

HOUSE OF REPRESENTATIVES,
COMMITTEE ON PUBLIC WORKS,
SUBCOMMITTEE ON ROADS,
Honolulu, T. H.

The subcommittee met, pursuant to notice at 9:15 a. m., in Iolani Palace, Hon. John C. Kluczynski (chairman) presiding.

Mr. KLUCZYNSKI. The meeting will come to order.

This morning we are having an informal public hearing on highways, flood control, and public buildings. For the record, I want it to be shown that the following members are present: Mr. Mack, of Washington; Mr. Hull, of Missouri; Mr. Scudder, of California; Mr. Gray, of Illinois; Mr. Byrne, of Illinois; and Mr. Dooley, of New York. With us is Mr. Robert McConnell, minority counsel, also Mr. Marshall Gerber, member of our staff on flood control.

I hope that this morning's hearing will be as interesting as the session we had yesterday. Our first witness this morning will be Mr. William Wachter, superintendent of public works, Territory of Hawaii, who will speak on highways. Please give the reporter your name and whom you represent.

TESTIMONY OF WILLIAM C. WACHTER, SUPERINTENDENT OF PUBLIC WORKS AND TERRITORIAL HIGHWAY ENGINEER, TERRITORY OF HAWAII

Mr. WACHTER. Mr. Chairman of the Public Works Committee and Members of the House of Representatives, my name is William C. Wachter, superintendent of public works and Territorial highway engineer for the Territory of Hawaii.

Before I make my presentation, I would like to introduce a few members of my staff that are here today to answer any questions that I might not be able to answer and to assist you in getting a proper picture of our problems here regarding highways. I take the liberty to introduce Mr. John C. Myatt, highway engineer; Mr. Melvin Lepine, advance planning engineer; Mr. Higeshi Iwamoto, design engineer; and Mr. Ah Leong Kam, assistant project engineer. Representing the Bureau of Public Works, I would like to introduce Mr. John Storrs, district engineer for public roads.

Mr. KLUCZYNSKI. You may proceed.

Mr. WACHTER. I would like to take this opportunity to orientate the committee on highways and highway problems. I would like to start by giving a little bit of background on the situation which has developed during these many years.

The provisions of the Federal Road Act of 1916 were extended to the Territory of Hawaii by a separate act of Congress in 1924. In

the following year the Territorial legislature designated the superintendent of public works as the Territorial highway engineer and created within the department of public works a Territorial highway department.

There are only two classes of public highways in the Territory. Highways constructed with Federal aid are Territorial highways. All others are county highways. As of June 30, 1957, the Territorial highway department has constructed 510 miles of Federal-aid highways with a cost of $98,738,000. Of this, the amount of $54,517,000 was from Federal sources.

I will interrupt here to pass out to you this material for your information.

Mr. KLUCZYNSKI. Mr. Reporter, please include these as part of the record.

(Material mentioned follows.)

TERRITORIAL HIGHWAY DEPARTMENT TERRITORY OF HAWAII

The following is submitted as supplementary data to that furnished the Committee on Public Works, 85th Congress, by the aforesaid department at a public hearing held at Iolani Palace, Honolulu, T. H. on Tuesday morning, November 12, 1957. It is hoped that this data will correct any misunderstanding that may now exist as to the expenditure of Federal Aid highway funds within the city of Honolulu and other urban areas.

The Territory of Hawaii has two systems of Federal aid highways, namely: Federal aid primary highway system and Federal aid secondary (farm to market) system, which also includes the urban extensions thereof into or through urban areas. The primary system differs from that in the several States in that there is no mileage limitation in Hawaii.

The primary system is required to provide an adequate system for national defense and connect seaports with units of the national parks (43 Stat. 17).

There is no established system of Territorial highways, as such. Under Territorial law, all highways, whether or not they are on a Federal aid system, are under county jurisdiction until constructed or improved by the Territorial highway department in conjunction with Federal aid funds. Thereafter the such improved sections fall under the jurisdiction of the Territorial highway department and the maintenance thereof is likewise its responsibility.

The Federal aid secondary system is selected by the Territorial highway department, in cooperation with the respective counties, as required by the Federal Aid Highway Act of 1944 (58 Stat. 838).

In connection with freeway construction through the city of Honolulu the Territorial highway department includes as part of the construction the necessary separation structures and ramps. The ramps start or end, as the case may be, on established city streets; beyond these points it is the responsibility of the local county government to see to it that the streets have adequate capacity to handle traffic.

1956 motor vehicle registrations in the Territory of Hawaii

County of Oahu:	
Passenger cars	122,583
Trucks and buses	17,073
Total registration	139,656
County of Hawaii:	
Passenger cars	16,112
Trucks and buses	4,879
Total	20,991
County of Maui:	
Passenger cars	12,624
Trucks and buses	3,606
Total	16,230

1956 motor vehicle registrations in the Territory of Hawaii—Continued

County of Kauai:	
Passenger cars	8,607
Trucks and buses	2,471
Total	11,078
Total Territorial registration:	
Passenger cars	159,926
Trucks and buses	28,029
Total	187,955

Summary of highway mileage, Territory of Hawaii

	City and county of Honolulu	County of Hawaii	County of Maui	County of Kauai	Total
FEDERAL AID SYSTEM [1]					
Federal aid primary system:					
Rural	120.4	212.4	86.9	61.1	480.8
Urban	32.7	3.4	2.3		38.4
National park		13.5			13.5
Military reservation			0.5		0.5
Total	153.1	229.3	89.7	61.1	533.2
Federal aid secondary system:					
Rural	84.7	210.5	249.0	75.7	619.9
Urban extensions	2.5	5.7	3.2		11.4
National park		2.7			2.7
Military reservation	15.2				15.2
Total	102.4	218.9	252.2	75.7	649.2
Total, Federal aid system	255.5	448.2	341.9	136.8	1,182.4
COUNTY SYSTEMS					
County rural roads	183.0	622.0	259.0	172.0	1,236.0
County city streets	493.0	75.0	23.0		591.0
Total	676.0	697.0	282.0	172.0	1,827.0
Grand total	931.5	1,145.2	623.9	308.8	3,009.4

[1] Improvements on the Federal aid system are the responsibility of the Territorial highway department.

Schedule of liquid fuel tax rates—Cents per gallon, effective July 1, 1957

	Territorial fuel tax	County of Hawaii, extra Territorial fuel tax	County fuel tax	Total tax
Gasoline: [1]				
City and county of Honolulu	[2] 5		3½	8½
County of Maui [3]	[2] 5	[4] 3	5	10
County of Hawaii	[2] 5		3	11
County of Kauai	[2] 5		4	9
Diesel oil and butane: [1] All counties	[2] 1			[2] 1
Diesel oil and butane (additional for highway use):				
City and county of Honolulu	[2] 4		3½	7½
County of Maui [3]	[2] 4	[4] 3	5	9
County of Hawaii	[2] 4		3	10
County of Kauai	[2] 4		4	8
Aviation gasoline, all counties	[5] 3½			[5] 3½

[1] Fuel sold for or used in small boats is credited to the small boat harbor fund.
[2] Credited to Territorial highway fund except for that used for small boats.
[3] County of Maui includes the islands of Maui, Molokai, and Lanai.
[4] Credited to the Territorial highway fund to be used for the interest and retirement of highway bonds issued after Jan. 1, 1947.
[5] Credited to the aeronautics commission.

TERRITORY OF HAWAII

Statement of liquid fuel tax collections for the calendar year 1956

	Territorial tax		County Hawaii extra territorial tax		County fuel tax		Total tax
	Cents per gallon	Amount	Cents per gallon	Amount	Cents per gallon	Amount	
City and county of Honolulu:							
Gasoline	5	$4,235,115.13			3½	$2,964,580.55	$7,199,695.68
Diesel oil, nonhighway	1	99,332.39					99,332.39
Diesel oil, highway use	5	57,220.00			3½	40,054.00	97,274.00
Butane, engines off highway	1	1,239.58					1,239.58
Butane, highway use	5	789.57			3½	552.72	1,342.29
Total		$4,393,696.67				3,005,187.27	7,398,883.94
County of Maui:							
Gasoline	5	498,537.10			5	498,537.10	997,074.20
Diesel oil, nonhighway	1	42,152.87					42,152.87
Diesel oil, highway use	5	4,768.80			5	4,768.80	9,537.60
Butane, highway use	5	183.85			5	183.85	367.70
Total		545,642.62				503,489.75	1,049,132.37
County of Hawaii:							
Gasoline	5	654,037.16	3	392,422.29	1	130,807.42	1,177,266.87
Diesel oil, nonhighway	1	51,358.24					51,358.24
Diesel oil, highway use	5	35,548.90	3	21,329.36	1	7,109.78	63,988.04
Butane, highway use	5	784.50	3	470.70	1	156.90	1,412.10
Total		741,728.80		414,222.35		138,074.10	1,294,025.25
County of Kauai:							
Gasoline	5	354,039.48			3	212,423.67	566,463.15
Diesel oil, nonhighway	1	24,634.12					24,634.12
Diesel oil, highway use	5	5,091.67			3	3,055.00	8,146.67
Butane, highway use	1	272.80			3	163.68	436.48
Total		384,038.07				215,642.35	599,680.42
Territorial summary:							
Gasoline		5,741,728.87		392,422.29		3,806,348.74	9,940,499.90
Diesel oil, nonhighway		217,477.62					217,477.62
Diesel oil, highway use		102,629.37		21,329.36		54,987.58	178,946.31
Butane, engines off highway		1,239.58					1,239.58
Butane, highway use		2,030.72		470.70		1,057.15	3,558.57
Total		6,065,106.16		414,222.35		3,862,393.47	10,341,721.98

(Corrected Statement)

State	Calendar year	Budget Bureau No. _____
Territory of Hawaii	1956	Approval Expires _____

Form FH-531
(11-14-56)

U. S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

STATE HIGHWAY INCOME

SOURCE:

This information from the records of Finance Office
Territorial Highway Department
Honolulu, Hawaii

Compiled under the direction of R. E. Howe, Finance Executive

COMM-DC 48480

(Corrected Statement)

Form FR-521
(Formerly Form 81)
(11-16-53)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

STATE HIGHWAY INCOME

State: Territory of Hawaii
Calendar year: 1956

Item	As reported at end of previous year	Adjustments of balance	Balance carried forward
1. Balances on hand at beginning of year:			
a. Reserves for construction, maintenance, etc. (Specify):			
(1) Territorial Highway Fund	$ 3,822,508	$	$ 3,822,508
(2) General Fund	60,232		60,232
(3) County Contributions	25,966		25,966
(4) Territorial Post War Highway Fund	131,950		131,950
(5) Loan or Bond Fund (See Note)	225,542	- 7,051	218,491
(6)			
b. Reserves for debt service:			
(1) Sinking fund			
(2) Other (Specify) Retirement Bonds, Act 73-S.L.H. 1947	132,131		132,131
(3)			
c. Total funds on hand at beginning of year			4,391,278

Item		For local rural roads not on State system	For local city streets not on State system	For State highway purposes	Total
2. Income from State motor-fuel taxes:					
a. Gross receipts	$ 6,479,329				
b. Less collection expenses, refunds, etc.					
c. Net income (a - b)	6,479,329	$	$	$ 6,479,329	$ 6,479,329
3. Income from State registration and operators license fees, fines, etc.:					
a. Gross receipts	$				
b. Less collection expenses, refunds, etc.					
c. Net income (a - b)					
4. Income from State motor-carrier taxes:					
a. Gross receipts	$				
b. Less collection expenses, refunds, etc.					
c. Net income (a - b)					
5. Income from road, bridge, or tunnel tolls (Specify facility):					
a.					
b.					
c.					
d. Total					
6. Toll facility concessions and rentals (Specify facility):					
a.					
b.					
c. Total					

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7. Appropriations from State general funds:				
a.	$	$	$ --	
b.				
c. Total				$
8. Income from other State taxes or fees (Specify):				
a.			--	
b.				
c. Total				
9. Federal funds received from Bureau of Public Roads (Segregate by type of funds in a note)			3,646,051	3,646,051
10. Other Federal funds received (Specify agency and purpose):				
a.				
b.			--	
c. Total				
11. Funds transferred from local governments (Include all Federal-aid matching funds):				
a. From counties and other rural units				
b. From cities and other urbanized units			177,547	
c. Total				177,547
12. Income from bonds and notes (Include proceeds of refunding operations) (Describe issue; give details on Form PR-561):				
a. Sale of Revenue Bonds Series "A"			12,500,000	
b.				
c. Total			12,500,000	12,500,000
Interest Reserve				
13. Income to bond sinking fund from investments, etc.			77,730	77,730
14. Miscellaneous State highway income (Specify):				
a. Permits to Excavate Highways			2,760	
b. Sale of Condemned Improvements & Equipment			52,898	
c. Sale of Printe Specifications & Reports			8,405	
d. Rental of Buildings & Equipment			57,959	
e. Sale of fill material			20,940	
f. Total				142,962
15. Total income (Items 2 through 14)				23,023,619
16. Total funds to be accounted for (1c + 15)				27,414,897

Page 2 — Use reverse side for notes and comments — Over-OC 66488

NOTES AND COMMENTS

1. a(5)	Appropriations transferred to Public Works Department.			
	Street Lights at Kipapa	31.95		
	Kuawa Street, Hilo	7,019.38		7,051.33
	Total			
9.	Federal Funds received in 1956 as follows:			
	Primary Funds		$ 1,007,041.00	
	Secondary Funds		1,161,180.00	
	Urban Funds		1,139,400.00	
	Seismic Wave Damage Rehabilitation		195,454.00	
	Others: PHS 1(1)	22,000.00		
	HPS 22(18)	36,776.00	58,776.00	
	Emergency Relief			
	ER 3(1)	26,800.00		
	ER 5(1)	57,400.00	84,200.00	
	Total			$3,646,051.00
11.	Funds transferred from Local Governments:			
	Sewer Department, City and County of Honolulu		$ 50,844.00	
	1st Circuit Court Refund of Deposit for withdrawal of condemnation procedure, Project U 44 (3)		65,747.00	
	Board of Water Supply:			
	F098-1(1)	7,500.00		
	US.S0630(1)	50,000.00		
	F092-1(2)	3,456.00	60,956.00	
	Total			$ 177,547.00

(Corrected Statement)

State	Calendar year	Budget Bureau No. _____ Approval Expires _____
Territory of Hawaii	1956	

Form PR-332
(11-14-56)

U. S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

STATE HIGHWAY EXPENDITURES

SOURCE:

This information from the records of Finance Office
Territory Highway Department
Honolulu, Hawaii

Compiled under the direction of R. E. Howe, Finance Executive

Comm-BC 44106

(Corrected Statement)

Form FB-638
(Formerly Form 88)
(11-14-55)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

STATE HIGHWAY EXPENDITURES

State: Territory of Hawaii

Calendar year: 1956

Item	On rural State highways: State primary	On rural State highways: State secondary (If applies)	On municipal extensions of State systems	Total
1. Capital outlay for roads, bridges, etc., on State system:				
a. Cost of acquiring right-of-way	$ 2,176,755	$ 100,157	$ 523,227	
b. Construction of roads	2,029,838	358,749	1,623,965	
c. Construction of major structures	546,975	1,388,522	692,100	
d. Total	4,753,568	1,847,228	2,839,292	$ 9,438,088
2. Expenditures for maintenance of State system:				
a. Maintenance of condition - Roads	$ 1,058,841	$	$	
b. Maintenance of condition - Bridges	262,905			
c. Snow removal, sanding, etc.				
d. Traffic services (highway utilities, etc.)	230,385			
e. Operation of drawbridges, ferries, etc...(non-toll)				
f. Operation of toll roads or crossings				
g. Total	1,552,131			1,552,131
3. Equipment expense (memo account, not additive to expenditures):				
a. Cost of equipment purchase, operation, repair, rent, etc.	$(473,721)			
b. Less equipment rentals and depreciation charges to construction and maintenance projects, etc.	(369,621)			
c. Net debit or credit in account (carry as balance in item 11a, or above)	(104,100)			
4. General administration and miscellaneous expenditures for State highways:	Bond Adm. & finance charges 75,219			
	Others 208,381		$ 283,600	
a. General administration and engineering			322,605	
b. Research, investigation, and planning			88,163	
c. Land and buildings				
d. Miscellaneous expenditures for State highways (Specify):		$		
(1)				
(2)				
(3)				
(4)				
(5) Total				694,368
e. Total, administration and miscellaneous (a to d, inclusive)				
5. Expenditures for law enforcement relating to State highways:			$	
a. State highway police				
b. Safety education and promotion				
c. Enforcement of size and weight restrictions				
d. Total				

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6. Expenditures for debt service on State obligations for highways (condense; give details on Form PR-543):	Paying agents fees, etc.	Interest	Retirement *	
a. Payment of Bond Obligations out of Fuel Tax	$	$ 142,584	$ 514,104	
b.				
c.				
d. Total		142,584	514,104	$ 656,688
*Do not include payments to sinking fund if balances are carried in item 12b.				
7. Expenditures by, or under supervision of, State highway department on local roads and streets: (Include matching funds for Federal-aid projects)		On local rural roads	On local city streets	
a. For construction See Note		$ 46,578	$ 14,793	
b. For maintenance See Note		53,967		
c. For administration				
d. Total		100,545	14,793	115,338
8. Funds transferred to local units as State aid on local roads and streets:				
a. For construction and maintenance		$	$	
b. For interest and retirement of local bonds		5,988	22,000	
c. Total				27,988
9. Expenditures by State on other State roads not on designated systems (State park roads, toll facilities, etc.; specify):		Construction	Maintenance	
a.		$	$	
b.				
c. Total				
10. Expenditures for nonhighway purposes (Specify):				
a. Sewer Installations			$ 50,844	
b. Water Works Installations			19,759	
c.				
d. Total				70,603
11. Total expenditures (Items 1 through 10)				12,555,206
12. Unexpended balances at end of year:				
a. Reserves for construction, maintenance, etc. (Specify):				
(1) Territorial Highway Special Fund Appropriations	$ 3,090,415			
(2) Territorial Highway Reserve Bond Fund	11,039,606			
(3) General Fund	23,769			
(4) Other Bond Fund Appropriations	112,705			
(5)				
(6)			$14,266,495	
b. Reserves for debt service:				
(1) Sinking fund Reserve for Retirement of Bonds Act 73-SLH 1947	-110,334			
(2) Other (Specify) Highway Revenue Bond Interest Fund	77,730			
(3) Highway Revenue Bond Reserve Fund	625,802	593,198		
c. Total funds on hand at end of year				14,859,693
13. Total funds accounted for (11 + 12c, should equal item 16, Form PR-531)				27,414,897

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NOTES AND COMMENTS

7. a.	Improvement and widening of McCully Street Bridge		$ 14,793	
	Construction of Kohala Mountain Road			
	Act 260-S.L.H. 1953	6,352		
	Act 273-S.L.H. 1955	660	7,012	
	Construction of Kawna Point Road		39,566	61,371
b.	Maintenance of Saddle Road		29,136	
	Repairs to Anini Road, Kauai		24,831	53,967
	Total			$ 115,338

County road receipts, 1956 calendar year

	City and county of Honolulu	County of Hawaii	County of Maui	County of Kauai	Total
Motor-vehicle weight tax	$2,760,078.44	$504,467.42	$371,256.25	$276,678.75	$3,912,480.86
Wagons, trailers, bicycles	74,547.53	37,532.07	20,487.81	18,607.76	151,175.17
Franchise tax	542,577.45	67,102.83	27,666.43	22,665.25	660,011.96
Penalties				740.93	740.93
Rentals		51,577.64			51,577.64
Sales of services and commodities	45,657.46	16,346.79			62,004.25
Receipts from other funds:					
General fund		122,947.85			122,947.85
Other funds	11,732.17		65,721.68	24,830.73	102,284.58
Miscellaneous receipts	10,986.31	63,947.15	1.02	100.38	75,034.86
Fuel taxes	3,012,118.19	126,826.42	507,727.25	218,294.87	3,864,966.73
Total	6,457,697.55	990,748.17	992,860.44	561,918.67	9,003,224.83

Source: Auditors' reports, counties of Hawaii, Maui, and Kauai; Comptroller's report, city and county of Honolulu.

Mr. WACHTER. The Federal-aid highway system in the Territory of Hawaii comprises 1,182.4 miles as follows: Federal-aid primary, rural, 494.8 miles; Federal-aid primary, urban, 38.4 miles; Federal-aid secondary, rural, 637.8 miles; Federal-aid secondary, urban, 11.4 miles; a total of 1,182.4 miles.

In addition there are 1,236 miles of county rural roads and 591 miles of city streets in the 4 counties. Altogether, there are 3,009.4 miles of public highways and streets.

Nearly all of Hawaii's produce, principally sugar and pineapple, is hauled by trucks. Railroad operations have ceased except for a few miles of industrial track. Our industries and our people depend upon our highways, and our incidence of vehicle ownership compares favorably with the mainland statistics. Population of the Territory of Hawaii, 523,359; registered vehicles, 187,224; persons per vehicle, 2.80. Population of the island of Oahu, 386,694; registered vehicles, 139,656; persons per vehicle, 2.77. Population of the United States, 166,983,000; registered vehicles, 65,212,510; persons per vehicle, 2.56. Population of the State of California, 13,600,000; registered vehicles, 6,534,982; persons per vehicle, 2.08. Placed bumper to bumper the registered cars on Oahu would circle the island five times.

Highways in the Territory are financed with Federal aid, fuel taxes, vehicle-weight taxes, and occasional general fund appropriations. County fuel taxes vary from county to county and the present rate is from 3½ cents per gallon to 4 cents per gallon. The counties also collect a weight tax of one-half cent per pound tax on automobiles and a 1 cent per pound tax on trucks. County revenues for highways amounted to $9,003,000 in 1956.

A Territorial fuel tax of 5 cents per gallon is used to administer and maintain our highways and to match Federal-aid allocations for new construction. Territorial fuel-tax collections for the past calendar year amounted to $6,065,106. Operating, maintenance, and administration cost in 1956 amounted to $2,098,732, leaving a balance of $4,006,374 to match Federal aid for new construction.

As is the case in most mainland States, our present highway system is inadequate to meet the needs of today's traffic—not to mention the increased traffic of future years. And, as in most mainland cities, our

highway needs in urban areas are particularly acute. Intersections carrying 40,000 and 50,000 vehicles per day are not uncommon in Honolulu.

The amount of $152 million was estimated as the amount needed for the Federal Aid Highway Act of 1954. The needs are now being reevaluated as provided for by section 210 of the 1956 act.

The 1955 legislature, in recognition of the inadequacy of our highways, authorized a $50,000,000 vehicle fuel tax bond issue. The act of the Territorial legislature was approved and ratified by Congress in 1956. The first issue of bonds ($12,500,000) was sold in October of 1956 and a second issue, for the same amount, was sold last September. We are now in the second year of an accelerated $80 million highway program financed with these bonds, fuel taxes and Federal aid. The program provides for highway construction in each county in proportion to the fuel-tax collections in the respective counties.

We plan to use a portion of our future Federal-aid allocations to redeem the fuel-tax bonds as authorized by section V of the Federal-aid Highway Act of 1950. Our fuel-tax funds must be used to pay the interest cost over the 30-year life of the bonds. The annual debt charges for principal and interest will be from $3,300,000 in fiscal 1962 to $2,900,000 in fiscal 1983. Interest cost on the serial bonds will decline from $2,225,000 in fiscal 1962 to $625,000 in 1983.

The Territory of Hawaii receives annual apportionments of Federal-aid primary, secondary, and urban funds on the same formula basis as do the 48 States, the District of Columbia, and Puerto Rico. We receive the minimum percentage of primary and secondary funds as do the District of Columbia and four other States. The Territory of Alaska receives special consideration under the 1956 Highway Act.

The motorists of Hawaii also pay the Federal automotive user taxes—which Puerto Rico does not. The amount of automotive user taxes paid in 1955 was estimated by the Bureau of Public Roads at $7,275,000. This is more than the amount paid by Vermont and Nevada. Over twice that of Alaska. We roughly estimate that the amount paid in 1957 will be $9 million because of the increased taxes levied by the Highway Revenue Act of 1956. This is considerably more than our 1959 apportionment of $4,001,034. Hawaii's 1959 apportionment was considerably less than the apportionments of $16,043,228, $29,101,342, $13,448,108 for Vermont, Nevada, and Alaska, respectively.

The Federal automotive user taxes were increased by the Highway Revenue Act of 1956 mainly to finance the national system of interstate and defense highways. We pay these increased taxes, yet we do not participate in the interstate program because the interstate system is limited to the continental limits of the United States.

Hawaii plays an important role in the defense of the Nation because of its strategic position in the Pacific, and because of the large number of military facilities here, particularly on Oahu, we do have defense highway needs.

In 1956 we submitted to our Delegate to Congress a proposed amendment to H. R. 8836, the Gore bill, which would establish a 100-mile defense highway system on Oahu. This proposed amendment was not submitted to Congress because hearings on H. R. 8836 had been completed. The Delegate did introduce H. R. 10829 as a separate bill.

H. R. 10829 was to authorize a 100-mile system to be designated as a defense highway system and was to require a study to be made of the cost to complete the system within a 10-year period.

The local military command requested the Department of Defense support on H. R. 10829 with a recommendation that it be amended to provide a 300-mile system, 200 miles on Oahu and 100 miles on the outer islands. The 84th Congress adjourned without taking any action of the aforementioned bill.

The 1957 Territorial legislature by joint resolution requested Congress to establish a defense highway system and to authorize appropriations therefor.

On September 10, 1957, we received from the Army a set of maps depicting the routes that would meet the defense highway needs of the Army, Navy, and Air Force. They recommended mileages on each island as follows: Oahu, 195.6; Hawaii, 70.8 (alternate 72.0); Maui, 3.0; Kauai, 16.4; total of 285.8 (alternate 287.0).

There are two routes of importance to the military on Hawaii. One would connect the ports of Kawaihae and Hilo via the Pohakuloa training area and the other would extend from Hilo to a proposed installation at South Point. The 300-mile limitation set by the commander in chief, Pacific, will permit only one of these routes to be included in the proposed system. The decision as to which route is to be included rests with the military.

The Territory is not in a position to question or defend the needs of the military for a 300-mile defense highway system.

Many of the existing roads on the system have been improved to standards which we feel to be adequate for either military or civilian needs. The cost for the improvement of the remaining mileage will depend upon the standards which are to be used. This will require considerable study, but we do not feel that the standards for the Interstate System are justified for all roads on the proposed Hawaii defense system.

We believe that construction on the Hawaii defense highway system, once it is established, can proceed to such standards and with such priorities of construction as are mutually agreeable between all parties—the military, the Bureau of Public Roads, and the Territory.

It is most important that the defense highway system be established and that the most urgent construction be started immediately.

We propose therefore that action be taken in the next session of Congress to: (1) Authorize the establishment of a Hawaii defense system of 300 miles in extent; (2) authorize funds for improvements to the system so that work can get underway.

We will request the next session of Congress to authorize for the Hawaii defense highway system an amount totaling $29,312,500 for the 1960 and 1961 fiscal years. This could be matched with Territorial funds on a 90–10 basis.

The above authorization would be equal to the amount of interstate highway appropriations Hawaii would have received under the Federal-aid Highway Act of 1956. It is equal to the apportionment received by Delaware, New Hampshire, Rhode Island, Vermont, and the District of Columbia. Each of these States received the minimum apportionment under the 1956 act.

We will request that subsequent authorizations be of sufficient amounts to complete the needed improvements within a reasonable period of time and that these amounts be determined on the basis of accurate and detailed cost studies such as are required by section 108d of the 1956 act.

The Territory would assume the obligation of maintaining the completed defense highways as it does for regular Federal-aid highways.

Gentlemen, it is most urgent that action be taken in the next Congress to get construction started in the Hawaii defense highway system. We cannot wait for estimates nor can we delay the program for a determination of standards and locations. These determinations can be made later, just as they were for the Interstate System.

While Hawaii will benefit by a completed system of interstate highways, the defenses of the United States will be strengthened by a completed system of defense highways in Hawaii.

(Proposed legislation follows:)

PROPOSED LEGISLATION, HAWAII DEFENSE HIGHWAY SYSTEM

A BILL To amend and supplement the Federal-Aid Road Act approved July 11, 1916 (39 Stat. 355), as amended and supplemented to provide for the designation of a Hawaii Defense Highway System and to authorize appropriations therefor

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it is considered essential to provide for the early completion of a limited system of highways in the Territory of Hawaii, of primary importance to the national defense, which system shall be known as the Hawaii Defense Highway System.

SEC. 2. The Secretary of Commerce shall designate a Hawaii Defense Highway System in the Territory of Hawaii not exceeding three hundred miles in total extent composed of routes of vital importance to the national defense and of which two hundred miles are to be located on the island of Oahu. The routes of the Hawaii Defense Highway System shall be selected by the joint action of the Territory and the highest local military command having jurisdiction in the Territory, subject to the approval of the Secretary of Commerce and the concurrence of the Secretary of Defense.

SEC. 3. (1) AUTHORIZATION OF APPROPRIATIONS.—For the purpose of carrying out the provisions of section 1, there is hereby authorized to be appropriated for the fiscal year ending June 30, 1960, the sum of $9,656,250 and for the fiscal year ending June 30, 1961, the sum of $9,656,250.

(2) AVAILABILITY FOR EXPENDITURE.—Any sums authorized under this section shall be available for expenditure in the Territory of Hawaii for a period of six months prior to the beginning of the fiscal year and two years after the close of the fiscal year for which such sums are authorized, and any amounts so authorized remaining unexpended at the end of such period shall lapse: *Provided*, That such funds shall be deemed to have been expended if a sum equal to the total of the sums herein authorized is covered by formal agreement with the Secretary of Commerce for the construction, reconstruction, or improvement of specific projects as provided in this Act.

(3) FEDERAL SHARE.—The Federal share payable on account of any project on the Hawaii Defense Highway System provided for by funds made available under this section shall be 90 per centum of the total cost thereof.

SEC. 4. STANDARDS.—The geometric and construction standards to be adopted for the Hawaii Defense Highway System shall be those approved by the Secretary of Commerce in cooperation with the Department of Defense and the Territorial Highway Department. Such standards shall be adopted by the Secretary of Commerce in cooperation with the Department of Defense and the Territorial Highway Department as soon as practicable after the enactment of this Act.

SEC. 5. DECLARATION OF POLICY WITH RESPECT TO COMPLETION OF THE HAWAII DEFENSE HIGHWAY SYSTEM.—

(a) COMPLETION OF SYSTEM.—It is hereby declared to be essential to the national interest to provide for the early completion of the Hawaii Defense Highway System provided for in this Act. It is the intent of the Congress that the

Hawaii Defense Highway System be completed as nearly as practicable over a thirteen-year period.

(b) AUTHORIZATIONS OF SUBSEQUENT YEARS BASED UPON ESTIMATES OF COST.—It is the intent of the Congress that future authorizations for the Hawaii Defense Highway System be based upon biennial detailed estimates of cost for completing the Hawaii Defense Highway System within the period set forth in (a) above. As soon as the routes on the system have been designated as provided for by section 1 and standards provided for in section 4 have been adopted, the Secretary of Commerce, in cooperation with the Territorial Highway Department, shall make an initial detailed estimate of the cost of completing the designated Hawaii Defense Highway System, after taking into account the authorizations of this Act. The Secretary of Commerce shall transmit the initial estimate to the Senate and the House of Representatives within ten days subsequent to January 2, 1960. The Secretary of Commerce shall make subsequent estimates of the cost of completing the then designated Hawaii Defense Highway System after taking into account all authorizations of this Act and subsequent Acts and transmit the same to the Senate and House of Representatives within ten days subsequent to January 2, 1962, and biennially thereafter through and including January 2, 1970.

SEC. 6. All provisions of the Federal-Aid Road Act approved July 11, 1916, together with all acts amendatory thereof or supplementary thereto, not inconsistent with this Act, shall remain in full force and effect and be applicable hereto. All Acts or parts of Acts in any way inconsistent with the provisions of this Act are hereby repealed. This Act shall take effect on the date of the enactment of this Act.

Mr. WACHTER. We ask that you give this proposal your considerate attention and that you support the request of the military and ourselves for a Hawaii Defense Highway System. Consequently, I have asked members of my staff here to answer any questions that you might have.

In addition, I would like to call your attention to a letter that the Territory has received from the Deputy Commander of the United States Army, Pacific, which states they would be most anxious to have the opportunity to meet the committee for a short period of time to better present their needs for this defense highway than we are. They feel that they are not in a good position to do that in a public hearing because of the classified nature of installations that exist here on Oahu and throughout the Territory of Hawaii. If there are any questions, I will try to answer them.

Mr. KLUCZYNSKI. Thank you very much for your excellent statement, Mr. Wachter. Any questions to Mr. Wachter?

Mr. SCUDDER. In 1956 you submitted to your Delegate to Congress a proposed amendment to H. R. 8836?

Mr. WACHTER. Yes, sir.

Mr. SCUDDER. For 100 miles of defense highway system?

Mr. WACHTER. Yes; that's correct.

Mr. SCUDDER. Then you say that the Department of Defense was in support of the new bill, H. R. 10829, which was submitted by your Delegate?

Mr. WACHTER. Yes, sir.

Mr. SCUDDER. Now you say that supporting your request the Department of Defense is asking for 300 miles of highway?

Mr. WACHTER. We have gone along with their feeling, on the matter of defense highways, for the need of the 300 miles of highway system.

Mr. SCUDDER. In other words, you would take the latter, 300 miles, instead of the 100 miles on Oahu?

Mr. WACHTER. Yes, sir.

Mr. KLUCZYNSKI. Mr. Wachter, would you please take a few minutes to explain to the committee and enlighten us on the area we are to travel. Do you have a map there?

Mr. WACHTER. Yes, sir. This is a map of Oahu [indicating on the map]. This area here [indicating on the map], is Pearl Harbor. The lines depict the possible 200-mile system on Oahu. It shows the routes through the city along the end. We are going to travel this way [indicating on the map] around the island. This afternoon we are going to take you on this general route [indicating on the map the route to be taken] over Kaimuki, by Diamond Head, over this part [indicating on the map] of the island, and to the Blow Hole. By the way, Blow Hole is one of the scenic attractions of the island of Oahu. We will also visit flood-control projects while en route and we will return to Honolulu over the Pali, which is another scenic beauty.

Mr. KLUCZYNSKI. About how many miles are we going to travel this afternoon?

Mr. WACHTER. I would figure about 40 miles.

Mr. MACK. In 1956 the governors felt that it would be better if all the gas taxes were turned over to the States and for the States to do their own building of defense highways. It might be impractical so far as the States are concerned, but in your case, you are separated from the convenience of connecting roads in each State. In consideration of the amount of taxes paid in by the people of Hawaii on gasoline and user taxes, the taxes should be entirely turned back to the Territory for the building of their own highways.

Mr. WACHTER. We are sure that has been considered. However, we here in Hawaii, by legislation, supported this tax action by our own resolution in the last session that we should have a defense highway system. We feel that we are part of our country, and for that reason, we want to be considered for defense highway system.

Mr. MACK. What is the cost of highway construction in the Territory?

Mr. WACHTER. The cost here, compared with mainland highway costs, are high because of the high real-estate value. For example, we have this current bond issue of $80 million. One-half of the bond money will be used to construct 7½ miles of highways through the city.

Mr. MACK. Thank you, Mr. Wachter.

Mr. KLUCZYNSKI. Thank you, Mr. Wachter. Our next witness will be Mr. Craig. Give your name to the reporter and whom you represent.

TESTIMONY OF ROBERT S. CRAIG, REPRESENTING HONOLULU CHAMBER OF COMMERCE

Mr. CRAIG. Mr. Chairman and members of the Public Works Committee of the House of Representatives, my name is Robert S. Craig, representing the governmental and community affairs committee, Chamber of Commerce of Honolulu.

Mr. Wachter has mentioned our feelings in the matter you are considering. I will present the viewpoints of the business community in terms of the potential of our economic growth. We trust that this committee will judge our case on its merits and will apportion your consideration in the same manner as to the problems of New Mexico, Arizona, or any other part of the United States.

We would like to talk in terms of economic development of the Territory. At the present time, the population on the island of Oahu is increasing while the islands of Kauai, Maui, and Hawaii are decreasing. These decreases are not in conjunction with the rate of birth, but as a result of the fact that this island has more to offer and that the other islands are not keeping pace with the island of Oahu.

Another disturbing fact is that many of Hawaii's brightest, most able young men are finding the attraction of mainland jobs. Many people from Hawaii hold high-level jobs in the State of California, including colleges and universities.

We believe one of the approaches to the solution of our problems is the economic development of the islands. The Territory has to, first of all, create new business ventures so our bright young men will be attracted to remain in Hawaii. The internal situation here is a serious problem; we always see the same problems in relation to the economic condition of the entire country.

Gentlemen, you can't imagine how hard we are trying to look over every aspect of a new industry for Hawaii. You will be surprised at the amazing facts we have found—what can be done and what cannot be done—in the economic development of these islands within the next decade. The unemployment situation in Hawaii is at a very low rate compared to the mainland.

The equality of treatment for the people of Hawaii in relation to the people of the 48 States requires that we assume the full duties and responsibilities of integration with the United States if we are to share the blessings and benefits of that equality. Factual representations have been made showing that we now carry the full load of our duties and obligations, enjoying no exemptions of any sort in the matter of burdens placed upon us by the laws and tax levies of the Federal Government.

In all matters of concern to your honorable body in this visit to these islands, we respectfully request that the Territory of Hawaii be given the same consideration as would be extended to us if we were in fact, the 49th State.

With specific reference to the highway system problem, our position is that we fully support the proposals of Mr. Wachter, superintendent of public works and Territorial highway engineer as spokesman for the executive branch of the government of the Territory of Hawaii. I want to offer this statement and two resolutions for your record.

Mr. KLUCZYNSKI. You want these (statement and two resolutions) to be made part of the record?

Mr. CRAIG. Yes, Mr. Chairman.

Mr. KLUCZYNSKI. Without any objection, it is so ordered.

Exhibits U, V, and W (will be found in committee files.)

Mr. KLUCZYNSKI. Any questions to Mr. Craig?

Mr. MACK. It is quite obvious in the Territory of Hawaii that you are paying $2 into the fund and you receive about $1 back. The suggestion that consideration be given to the idea of money being refunded in the amount you pay in might be practical and an easier way to obtain justice than to seek and secure additional roads on the defense system.

Mr. CRAIG. There are many roads that should be in the defense Interstate Highway System that are quite important as defense roads.

Mr. SCUDDER. We want to correct the situation as to whether you are getting a square deal on the amount paid in.

Mr. CRAIG. May I say this. If given our choice, we would perhaps rather be treated in the same manner you treat a State and take the consequences one way or the other. If you want to give us money, we will be glad to take it.

Mr. DOOLEY. Mr. Chairman, while you were talking to Mr. Craig, I thought that what could be done is to give the right portion of new money under the new program.

I can't see where the engineers can justify a scenic route along the outskirts of your island, nor where it would be of any great importance as a military road. I think that your problem is transportation to these other islands. I believe it is provided in the law and that the present law stands as it is. Some States get 2 or 3 times what they put into the fund.

Funds, if turned back to the transportation committee or commission, could be used as you see fit to possibly put in some fast, well-developed ferry system between the islands. I can't see where a road on Oahu will help develop the islands, but I can see that if you develop a good ferry system it would help develop the islands.

Mr. CRAIG. I think someone has already tested your feelings on the possibility of a fast ferry system. The best long-range planning in this country is that which embraces both mechanics and economics to see the whole thing clear as to the feasibility for department study so that the most can be made of the situation.

I think you gentlemen will become increasingly aware of the need for giving the right kind of consideration and understanding to the Congress of our problems. We can go a long way toward making the Nation proud of these islands; and I sincerely hope you gentlemen will agree with us on that.

Right now, there are two major transportation companies in this community studying how to improve the traffic flow between here and the mainland and also between the island. As you can see, with this kind of research and with the firm intention to bring further modern concepts to the islands, you can see the significance of expanded harbors, better roads and the flow of traffic they will conceive. The end result—real prosperity. There are many obstacles in the way of unique concepts of present-day understanding.

I want to express the feelings that were reflected on me yesterday by a group of my friends, that "flattery will get you nowhere." With that in mind, I will not attempt to do any flattering.

Mr. HULL. I wouldn't say that; sometimes it does.

Mr. KLUCZYNSKI. Thank you for your excellent statement, Mr. Craig.

I want to remind you people that we are not an investigating committee or here to criticize. We came here to listen to your problems and to try to help you with them. I am happy to see that all the business organizations are working in harmony.

Mr. CRAIG. We appreciate your remarks.

Mr. KLUCZYNSKI. Thank you, Mr. Craig.

The record will be open for about 2 or 3 weeks. Anyone who has statements that they want to put into the records later on may do so by contacting Colonel Hatch of the Army engineers.

Our next witness will be Mr. Blaisdell. Give your name to the reporter and whom you represent.

TESTIMONY OF NEAL S. BLAISDELL, MAYOR, CITY AND COUNTY OF HONOLULU

Mayor BLAISDELL. Mr. Chairman and members of the Public Works Committee, I am Neal S. Blaisdell, mayor of the city and county of Honolulu.

Mr. KLUCZYNSKI. All right, Mr. Mayor, you may proceed.

Mayor BLAISDELL. First of all, I want to say that I am in full support of the statements made by Mr. William Wachter, particularly on the defense highway program in which military commanders have gone on record favoring the program.

I want to take a little bit of your time to emphasize the problems of the city and county of Honolulu. At the present time, we have some 139,000 automobiles on the island of Oahu, which means every 2.7 persons in this town drives an automobile. We have 700 miles of highway and we have right now a very serious problem of trying to figure the traffic impact. We are required, because of the accelerated program of Federal highway system, to construct 13 projects which will amount to an expenditure of $2 million which means the widening of streets and providing proper facilities for transition points between the Federal aid highway system and the city and county system. I want to make it plain, gentlemen, that the relations between the county and the Territorial government in their construction program is a very pleasant one. I want to point out that, because of the acceleration in the growth of urban areas, we will be forced to take funds from the normal construction program which is behind schedule.

Mr. KLUCZYNSKI. Mr. Mayor, the committee will give you as much time as you want.

Mayor BLAISDELL. Thank you. I don't have much more to say.

I do want to say that we do need help, particularly on the projects that have to do with the urban highway system. Most of these projects are being supported by, and are financed under, the Improvement District Act. However, there is a tremendous amount of time lost due to the resistance of property owners to accept the Improvement District Act in these areas, particularly where projects are to be constructed.

It is our hope, of course, with this tremendous problem before you, we might be able to get some Federal aid which would make it possible to take care of these various projects which come about by the Federal highway system. I have brought with me today, Mr. Yoshio Kunimoto, chief engineer; Mr. Franklin Sunn, bureau of plans; and Mr. Leighton Louis, city planning commission, to answer any question that you might want to ask. I am sure they will be able to answer any question that I will not be able to answer myself.

Mr. KLUCZYNSKI. Any questions to the mayor?

Mr. MACK. As I understand it, the county and city is under one administration?

Mayor BLAISDELL. That's right.

Mr. MACK. The same relationship as the city and State back on the mainland?

Mayor BLAISDELL. About the same.

Mr. MACK. Do you know approximately the miles of roads of the city and county?

Mayor BLAISDELL. We have a total of 700 miles.

Mr. HULL. Do you get Federal aid for county roads?

Mayor BLAISDELL. No, we do not.

Mr. SCUDDER. How about primary and secondary highways on the island?

Mayor BLAISDELL. We do, under the territorial administration.

Mr. SCUDDER. You do not have an interstate highway. The Interstate Highway System is on a 90/10 matching basis now. You just don't fall into that category.

Some special exceptions might be made in the law which will provide for some overall arrangement to make up the tax you are paying. Under the Interstate Highway System there might be developed some method of transportation benefit, which would fit into the Interstate Highway System.

Mr. HULL. Of the gas taxes received, how much does the city and county get?

Mayor BLAISDELL. I would say about 3½ percent of the total tax.

Mr. HULL. What is the actual gas tax?

Mayor BLAISDELL. About 8½ cents per gallon.

Mr. KLUCZYNSKI. Is that right; 8½ cents per gallon?

Mayor BLAISDELL. Yes; that's right.

Mr. KLUCZYNSKI. Any further questions to the mayor? No further questions. Thank you, Mr. Mayor.

That completes the hearing on highways and our next witness on flood control will be Mr. Robert Palmer.

TESTIMONY OF ROBERT Q. PALMER, OF PLANNING AND REPORTS BRANCH, UNITED STATES ARMY ENGINEER DISTRICT, HONOLULU

Mr. PALMER. Honorable Chairman and members of the Public Works Committee, I am Robert Q. Palmer, of the Planning and Reports Branch, United States Army Engineer District, Honolulu.

I would like to introduce some of the Corps of Engineers' staff members that helped to make this presentation possible: Mr. Robert Hall, Chief, Projects Section; Mr. William H. Oliver, Projects Section; Mr. Alfred Barona, engineer; Mr. Anthony Tam, the reporter here, is with the Legal Branch of the Honolulu district; Mr. Floyd Willett, construction and maintenance representative, Rivers and Harbors; and Mr. Clarence Fujii, hydraulic engineer, who is not here today.

My talk today will be on something that you will see this afternoon. After leaving Washington Place this afternoon we are going by Manoa and Palolo Streams, then around to Kawainui Swamp flood-control project [indicating on the map]. This project was authorized by the 1950 Flood Control Act. This area here [indicating on the map] is the residential area of Kailua. There are about 40,000 people along the windward side of the island. There was a large flood in 1951, which flooded out half of the residential area.

The Territory decided not to wait for a Federal project to be constructed. The Territory constructed a pilot channel along the alinement of the Federal project.

Mr. HULL. Where does the flood water come from?

M. PALMER. It comes fom the mountains—that would be on the west. This completes my statement, Mr. Chairman.

Mr. KLUCZYNSKI. Are there any questions to Mr. Palmer?

Mr. MACK. How often do the floods occur?

Mr. PALMER. We had a big one in 1951. There were smaller floods in 1946, 1947, and 1950. In 1922 there was a flood with the same magnitude as the one in 1951.

Mr. MACK. Thank you, Mr. Palmer.

Mr. HULL. What were the estimated damages in the 1951 flood?

Mr. PALMER. In 1951, we had a flood stage of 8.61 feet and the area was only partially developed. Offhand I cannot give you the exact damages, however, with the present development the damages for a flood with a stage of 9 feet would be $1,055,000 and for a stage of 8 feet would be $532,000.

Mr. HULL. Thank you.

Mr. KLUCZYNSKI. No further question. Thank you, Mr. Palmer. Now, we will hear again from the Honorable Mayor Blaisdell.

Mayor BLAISDELL. Mr. Chairman and members of the committee, because of the very short supply of land, flood plains have been developed in the past. Recently, flood zoning has prevented new developments in flood plains. A number of house lots were let out of a recently submitted subdivision plan for 75 house lots. So far, flood zoning has insured against damage in our flood control.

There are two particular projects that I am sure you will be interesteste in hearing about. In the Waipahu project, we are working very closely with the district engineer's office, continuing the studies on flood conditions there. In 1954 there was approximately $280,000 damage to property and a life taken. We have a plan for that particular area now. It is hoped that we will be able to go ahead with the plan in the very near future—widening of the stream, condemning all the low lands, and so forth. We are making an effort to get a final offer for that land to complete our channel through that area into the west lock at Pearl Harbor. This project will cost about $600,000.

This afternoon we are going to Kuliouou Valley. We are working in conjunction with the district engineer's office in the hope of obtaining Federal aid for creating and developing the requested channel system to take care of all floodwater.

We now require all subdividers of new lands to provide drainage for floodwater before they start developing lands. In addition, we demand estimates in the cases of new subdivisions. In the case of old subdivisions, land within the flood plains will be condemned in order that our equipment can go in there and provide the necessary works to make the facilities safe. And in addition to that, we are working now on getting a California survey team and the representative of the Territorial government to start long-range plans to control floods—when the flood hits—to give us some predictions on these floods. We have, of course, many smaller problems. I am sure you will want to stop to observe. In particular areas, we are working closely with the soil-conservation people. In several flooded areas we have already applied for Federal assistance and have received approval by the Federal Government. That is all I have to offer this morning, Mr. Chairman.

Mr. KLUCZYNSKI. Are there any questions to the mayor? No questions, Mr. Mayor, thank you very much.

That completes the hearing on flood control. Now we shall hear from Mr. George Hara on Federal buildings.

TESTIMONY OF GEORGE HARA, DISTRICT OPERATIONAL MANAGER, POST OFFICE DEPARTMENT

Mr. HARA. Mr. Chairman and members of the Public Works Committee, I am George Hara, district operational manager of the Post Office Department.

I would like to elaborate on the postal service out here. We are working for a good deal more office space here. The post office here has been established by congressional act.

I was in Washington about 8 weeks ago, proposing an annex over here with spare equipment and 70,000 square feet. Presently, we have only 27,000 square feet of floor space. We added gradually an annex to the main Federal building here. We are committed to the Regional Act in San Francisco to process incoming and outgoing mail.

Now, I would like to elaborate on the operation of the Honolulu office. The Honolulu office was started way back in 1923–24, with half a million dollars, that's about all. This has grown to 4½ million within the last 2 or 3 years.

Honolulu is the gateway of all defense in the East. With these new facilities and spaces acquired, we will be giving a service to the people which they have paid for. We have tripled the handling of mail. I believe, too, that because of the military mail, which makes a larger volume, it will take a few years more before we will have everything needed to contend with the increase in mail and to eliminate working all night at the main post office. I believe I have taken enough of your time. I would appreciate it very much if you would consider our efforts to get a new site.

Mr. KLUCZYNSKI. Mr. Hara, just a moment. You said you started in 1923; is that right?

Mr. HARA. Yes; that's right.

Mr. KLUCZYNSKI. How much floorspace did you have then?

Mr. HARA. At that time, I would say about 15,000 square feet.

Mr. KLUCZYNSKI. Fifteen thousand square feet. You did half a million dollars of business. In 1956, you had 28,000 square feet and you did $4,500,000 of business and you anticipate more for this year?

Mr. HARA. We want 70,000 square feet of working floorspace.

Mr. KLUCZYNSKI. Are you familiar with the terms of the Lease Purchase Act?

Mr. HARA. Yes, I am.

Mr. KLUCZYNSKI. Any further questions? Mr. Dooley?

Mr. DOOLEY. No questions.

Mr. GRAY. Has any effort been made to find other available funds beside the Lease Purchase Act? Before you try for a Federal building you must exhaust every means to find available space. Have you done that?

Mr. HARA. No, sir.

Mr. BYRNE. There is one prerequisite. Do you know whether or not the Post Office Department submitted to Congress a request for a new Federal building here? I don't recall seeing it.

Mr. HARA. It was submitted through General Service Administration.

Mr. MACK. You mentioned that efforts have been made to obtain a post office through General Service Administration and that it was submitted to us.

Mr. HARA. I did.

Mr. MACK. We cannot do anything without a request.

Mr. KLUCZYNSKI. Mr. Hara, are we scheduled to visit the post office this morning?

Mr. HARA. That is right.

Mr. KLUCZYNSKI. Good. It will give us a chance to inspect the post office ourselves. We feel that you need more post office space. Thank you very much for your statement, Mr. Hara.

The Chairman recognizes Mr. Byrne.

Mr. BYRNE. As you know, we are the most powerful committee, the House of Representatives, and we will try our best to help you with your problems. I would like to commend the very able mayor of this city and county for his fine presentation here today. Also, the Chamber of Commerce of Hawaii for the fine outline of the problems in this community. You brought to the members of this committee a pictorial view of your problems here which gave us a better opportunity to understand your problems more clearly. Again, I want to thank all of you for your wonderful presentations and for being so helpful to this committee.

Mr. KLUCZYNSKI. Thank you, Mr. Byrne. There being no further business this morning, the meeting is adjourned.

PUBLIC WORKS PROJECTS OF HAWAII

WEDNESDAY, NOVEMBER 13, 1957

HOUSE OF REPRESENTATIVES,
COMMITTEE ON PUBLIC WORKS,
SUBCOMMITTEE ON ROADS,
Hilo, Hawaii, T. H.

The subcommittee met, pursuant to notice, at 10:45 a. m., in the Hilo Hotel, Hon. John C. Kluczynski presiding.

Mr. KLUCZYNSKI. Let the record show that I am John C. Kluczynski of Illinois, acting as chairman of this subcommittee. With us we have Congressman Mack of the State of Washington; Congressman Byrne of Illinois; Congressman Gray of Illinois; Congressman Dooley of New York; Congressman Hull of Missouri; and Congressman Scudder of California. With the committee, we have Mr. Robert McConnell, minority counsel, and Mr. Marshall Gerber, member of the staff on flood control. We shall start the hearing this afternoon by hearing from our first witness, Mr. Glenn Mitchell. Give your name to the reporter and whom you represent.

TESTIMONY OF GLENN MITCHELL, REPRESENTING TERRITORIAL BOARD OF HARBOR COMMISSIONERS

Mr. MITCHELL. Mr. Chairman and members of the Public Works Committee, my name is Glenn Mitchell, representing the Territorial board of harbor commissioners.

I want to present to your committee the fact that we feel one of the most important needs is a model study of the port of Hilo. I say that for this reason. We have many problems in the port of Hilo.

One of the most important things we are faced with, and one that is most objectionable, is the surge in Hilo Harbor. Surge is such that often it is impossible to work ships at our piers. At such times ships have to anchor away from the pier until the surge subsides. There are many theories. Some say that Hilo Harbor is not wide enough as it is, some say the angle of the breakwater causes the problem, some say there is no protection from the breakwater. The fact is that the surge is there. Last week a freighter loading sugar had to ride anchor in the harbor basin until the surge subsided. A model study has never been made to determine whence this surge came.

Very important to us is the seawall, which you will read more about later, which ends in the vicinity of Cocoanut Island. The people in this industrial area feel that they would really bear the brunt of a tsunami, or tidal wave, if a wall is constructed. It is impossible to determine whether or not they would without a model study of Hilo Harbor and the wave action prevalent there.

History proves that sooner or later our breakwater will go again as a result of a tidal wave. It has happened about every 20 years and the last few years more often. This breakwater has served the Hilo area well, all of these years, but it will flatten out and the Corps of Engineers should be given the opportunity of designing a new alinement of the breakwater.

Many of us know that the Navy is interested in finding an enlarged protected area for dispersing. The Hilo Harbor is an excellent one. There are greater areas that could be dredged out in this portion [indicating on the map] by the question is whether this is the best alinement for the breakwater. Supposing the present breakwater could be extended, perhaps the surge has some bearing on the alinement of the breakwater. The model study will give the Corps of Engineers some idea as to the alinement.

There is one other subject that is near to us, that is the Hilo Harbor Basin. In 1907, Congress authorized the project for Hilo Harbor. The location of the bulkhead and pier line was the same as it is today. The plan at that time was to have a finger pier going out 600 feet in this direction [indicating on the map]. Now, that plan has been abandoned, but the project hasn't been changed. The result is that the 600-foot area is under the jurisdiction of the Territorial board of harbor commissioners. This pier [indicating on the map] now accommodates two ships easily, but a freighter and a passenger ship need additional room to maneuver in the turning basin. With a freighter here [indicating on the map], a passenger ship proceeding out to the channel would require enlargement of the present turning basin. The enlargement of the harbor basin would be a Federal project. It is unfortunate, perhaps, that the planned work did not carry through, but there are very few places that have ports where the Federal project line is 600 feet outside the bulkhead or pier. Let's refer to the 1957 plan. Fifty years ago it was planned to have the pier go an additional 600 feet. We feel that the project line in Hilo should be the same as in Honolulu. If the harbor is enlarged, passenger vessels will be able to stop in Hilo more often. I think you should realize that more and more passenger ships are stopping in Hilo each year.

Mr. KLUCZYNSKI. You mentioned that tidal waves occur about every 20 years?

Mr. MITCHELL. Serious tidal waves have occurred about every 20 years, but recently they have occurred more often—about every 12 years. No one can predict when it will happen; one may come this year or 2 years from now.

Mr. KLUCZYNSKI. When was the last tidal wave?

Mr. MITCHELL. 1946 was the last big one.

Mr. BYRNE. Mr. Mitchell, you have advised us to authorize a model study of the harbor. What is your reason for suggesting that a model study be made?

Mr. MITCHELL. Mr. Byrne, in 1930 there was one made on a very small scale. The model was made on such a small scale that the engineering department feels it doesn't give them the answers. There is a feeling that a small breakwater out on Cocoanut Island and another from the channel would stop the surge, but that is theory.

Mr. BYRNE. In other words you suggest the model should be made to give us answers to the problem?

Mr. MITCHELL. Not one problem, several.

Mr. BYRNE. You have been trying to obtain the answers for quite a number of years. In other words, basically and fundamentally, if you had such a model study, it would give the town some indication in what way to build a better, more significant, and practical harbor and facilities. What would be the cost of such a model?

Mr. MITCHELL. It is estimated that it will run up to $100,000. A model study now would probably save hundreds of thousands of dollars, and possibly millions over a period of time. The model for Hilo would not only help to determine the surge action in the Hilo Harbor, but would also help with the realinement of this seawall. The model study would also give answers to questions as to what the depth of the harbor should be.

Mr. DOOLEY. What is the depth of the channel?

Mr. MITCHELL. About 30 to 40 feet. A breakwater should be put out to here [indicating on the map].

Mr. BYRNE. A model study would give you answers scientifically as to where the tidal wave would hit; would it not?

Mr. MITCHELL. I think that would be true, sir. A model study of the harbor would determine in general as to what to expect of the tidal wave.

Mr. DOOLEY. Would it indicate the course of the tidal wave, due to an earthquake?

Mr. MITCHELL. It would not determine the course of the tidal wave or how high it would be. The proposed Hilo seawall would divert a certain percentage of the water.

Mr. MACK. Mr. Mitchell, in your testimony, your suggestion is for a distinct project, one that will correct the surge and change the alinement of the breakwater. Have you considered possible shore correction which may lessen the danger of tidal-wave action? Have you such a project in any stage of survey?

Mr. MITCHELL. The seawall itself, Mr. Mack, which I have indicated. A model study will prove it right.

Mr. MACK. Has the Congress through this committee, made a study and recommended an amount of money for this project?

Lieutenant Colonel HATCH. Yes, sir. The Hilo seawall is under study. Also, the authorization exists to review the existing project, including all other problems.

Mr. MACK. All the other problems?

Lieutenant Colonel HATCH. Yes, sir. There has been a study authorized for that purpose.

Mr. MACK. How much money?

Lieutenant Colonel HATCH. No money has been allocated except for the seawall.

Mr. MACK. What is the estimated cost of the study?

Mr. PALMER. To date, $96,000.

Mr. MACK. For the entire harbor?

Mr. PALMER. Yes, sir.

Mr. MACK. Has any money been appropriated?

Mr. PALMER. No; this is phase 2 of 2 phases, the seawall study is first.

Mr. MACK. How long ago was the reauthorization made?

Mr. PALMER. A resolution was adopted on May 9, 1957.

Mr. MACK. That is quite recently.

Lieutenant Colonel HATCH. If I may, I would like to clarify the model question. First, a model study would show us how to construct the facilities more cheaply with the same benefits. Secondly, the model study would help us avoid blunders by giving us facts instead of assumptions for the basis of planning.

Mr. MACK. When will the tidal-wave study be completed?

Lieutenant Colonel HATCH. We hope to have it completed to reach you by next session of Congress.

Mr. SCUDDER. I can see where a tidal wave would affect the building up of water levels along the coast and aggravating flood conditions over and beyond natural flood conditions. Now, I see the bigger problem there. We are glad the Corps of Engineers are doing everything possible for the study.

Mr. MITCHELL. No question about that.

Mr. KLUCZYNSKI. Mr. Gray, any questions?

Mr. GRAY. No questions.

Mr. HULL. How many passenger ships do you have that call at Hilo Harbor? In a year, for instance?

Mr. MITCHELL. About 26 to 30 in a year. Last year it was about 32, and next year, we think it will be about 50. Hilo Harbor is the only outside port that can take the steamship *Lurline* and the steamship *Leilani*.

Mr. MACK. Can you tell me how often a ship will run into difficulties when docking?

Mr. MITCHELL. Several times a year, particularly during the winter months. It depends altogether on the weather. In the summer and early spring we don't have too much trouble. Yesterday we had quite a surge action in the harbor. Two ships had to drop anchor outside the harbor and wait until the surge eased off before coming in.

Mr. KLUCZYNSKI. Any questions, Mr. Byrne?

Mr. BYRNE. I would like to direct a question to Colonel Hatch. It is my understanding that in your statement you indictaed that a model study might eliminate the possibility of a blunder. Did I understand you correctly?

Lieutenant Colonel HATCH. Yes, sir. So far as the surge is concerned, a model study would solve the problem and eliminate chances of error due to false assumptions.

I might illustrate the seawall problem which was brought up. If we extend the seawall up to this point [indicating on the map] there is a chance that the tidal wave will go inland here [indicating on the map] and build up along the wall here. Since the seawall might funnel the water into the hotel area, a model study would determine how to extend the seawall out here [indicating on the map] to turn the tidal wave away from the hotel and also protect the city.

Mr. KLUCZYNSKI. Thank you, Colonel Hatch, for enlightening the committee with your very fine statement.

Lieutenant Colonel HATCH. I think we have covered the Hilo Harbor problems.

The Hilo lava barrier was mentioned to you in Honolulu. We have a great volcano which stands above the town of Hilo. In recent years, a lava flow stopped just short of the city, and if it had continued on, it would have destroyed the city. A proposal has been made that a dike

be constructed to protect the city in case of such a lava flow. This is another project which has been authorized, but no money has been appropriated.

Mr. MACK. What is the authorized sum estimated for the preliminary study?

Lieutenant Colonel HATCH. Five thousand dollars.

At this time, I would like to enter for the record these data you asked for on funds allocated for the study of projects, and the amounts that are needed to complete the studies.

(Material mentioned follows:)

Authorized projects

Project title and description	Authority	Total estimated cost	Fiscal year 1958	Funds allocated		Total	Funds required to complete
				Fiscal year 1957	Prior years		
NAVIGATION							
Honolulu Harbor second entrance channel, island of Oahu, T. H.	Rivers and Harbors Act, Sept. 3, 1954 (House Doc. 717, 81st Cong., 2d sess.).	$3,540,000	$50,000	0	0	$50,000	$3,490,000
Kawaihae Harbor, island of Hawaii, T. H.	Rivers and Harbors Act, May 17, 1950 (House Doc. 311, 81st Cong., 1st sess.).	5,530,000	2,450,000	$1,700,000	$28,000	4,178,000	1,352,00
Nawiliwili Harbor, island of Kauai, T. H. (modification).	Rivers and Harbors Act, Sept. 3, 1954 (House Doc. 453, 83d Cong., 2d sess.).	983,200	0	190,000	803,000	993,000	0
Wake Island Harbor, Wake Island	Rivers and Harbors Act, Aug. 26, 1937 (House Doc. 84, 75th Cong., 1st sess.).	3,950,000	0	0	0	0	3,950,000
Total navigation		14,003,200	2,500,000	1,890,000	831,000	5,221,000	8,792,000
BEACH EROSION							
Waikiki beach-erosion control, island of Oahu, T. H.	Rivers and Harbors Act, Sept. 3, 1954 (House Doc. 227, 83d Cong., 1st sess.).	[1] 976,000	0	0	0	0	[1] 976,000
FLOOD CONTROL							
Hanapepe River, island of Kauai, T. H.	Flood Control Act, Dec. 22, 1944 (OCE Report, Mar. 15, 1944).	445,000	0	0	38,000	38,000	407,000
Kawainui Swamp, island of Oahu, T. H.	Flood Control Act, May 17, 1950 (House Doc. 214, 81st Cong., 1st sess.).	935,000	0	0	44,000	44,000	891,000
Wailoa River, island of Hawaii, T. H.	Flood Control Act, Sept. 3, 1954 (House Doc. 529, 81st Cong., 2d sess.).	438,000	0	0	0	0	438,000
Total flood control		1,818,000	0	0	82,000	82,000	1,736,000
Total authorized projects		[2] 16,146,200	2,500,000	1,890,000	913,000	5,303,000	[2] 10,853,000

[1] $325,000 estimated Federal share.
[2] Includes only Federal share of beach-erosion project.

Outstanding general investigations

ACTIVE

Name of study	Authority	Total estimated cost	Funds allocated				Funds required to complete
			Fiscal year 1958	Fiscal year 1957	Prior year	Total	
NAVIGATION							
Hilo Harbor (seawall), island of Hawaii, T. H. (survey).	Sec. 7, Rivers and Harbors Act, July 24, 1946.	$25,900	0	$4,600	$21,300	$25,900	0
Honolulu Harbor (anchorage areas), island of Oahu, T. H. (review-survey).	Resolution, Apr. 21, 1950	8,900	0	0	8,900	8,900	0
Kahului Harbor (enlargement of turning basin), island of Maui, T. H. (review-survey).	Resolution, Apr. 21, 1953	39,600	$10,000	7,000	0	17,000	$22,600
Kalaupapa Landing, island of Molokai, T. H. (survey).	Sec. 6, Rivers and Harbors Act, Mar. 2, 1945.	7,800	5,800	0	2,000	7,800	0
FLOOD CONTROL							
Palolo and Manoa Streams, Oahu, T. H. (letter report).	Sec. 205, Flood Control Act, May 17, 1950	500	500	0	0	500	0
Wailua River, Kauai, T. H. (review-PE)	Resolution, Aug. 16, 1950	4,000	4,000	0	0	4,000	0
Waimea River, Kauai, T. H. (review-survey)	Resolution, July 6, 1949	23,000	0	3,600	19,400	23,000	0
BEACH EROSION							
Waimea and Hanapepe beach-erosion study, Kauai, T. H.	Sec. 2, Public Law 520, 71st Cong., July 3, 1930.	17,500	0	0	17,500	17,500	0
Subtotal		127,200	20,300	15,200	69,100	104,600	22,600

Outstanding general investigations—Continued

INACTIVE

Name of study	Authority	Total estimated cost	Funds allocated				Funds required to complete
			Fiscal year 1958	Fiscal year 1957	Prior year	Total	
NAVIGATION							
Hilo Harbor (lava barrier), Hawaii, T. H. (review-PE).	Resolution, Sept. 27, 1951	$5,000	0	0	0	0	$5,000
Hilo Harbor (modification), Hawaii, T. H. (review-survey).	Resolution, May 9, 1957	96,000	0	0	0	0	96,000
Honolulu Harbor (deepening), Oahu, T. H. (review-survey).	Resolution, July 19, 1956	28,000	0	0	0	0	28,000
Kaunakakai Harbor, Molokai, T. H. (review-survey).	Resolution, April. 9, 1957	35,000	0	0	0	0	35,000
Kewalo Basin and Ala Wai Basin, Oahu, T. H. (survey).	Sec. 110, Rivers and Harbors Act, May 17, 1950.	25,200	0	0	$5,200	$5,200	20,000
Lahaina Harbor, Maui, T. H. (review-PE)	Resolution, Sept. 27, 1951	7,000	0	0	0	0	7,000
Harbors for light-draft vessels, Hawaiian Islands, T. H. (PE).	Sec. 110, Rivers and Harbor Act, May 17, 1950.	80,000	0	0	18,700	18,700	61,300
Keauhou Bay, Hawaii, T. H. (PE) [1]	do	0	0	0	0	0	0
FLOOD CONTROL							
Iao Stream, Maui, T. H. (survey)	Sec. 205, Flood Control Act, May 17, 1950	27,500	0	0	7,500	7,500	20,000
Subtotal		303,700	0	0	31,400	31,400	272,300
Total general investigations		430,900	$20,300	$15,200	100,500	136,000	294,900

[1] To be combined with study on harbors for light-draft vessels.

Mr. KLUCZYNSKI. This was discussed at the hearing in Honolulu?

Lieutenant Colonel HATCH. Yes, sir.

Mr. KLUCZYNSKI. Without any objection, it is so ordered to be entered in the record.

Lieutenant Colonel HATCH. The allocation for this year was approximately $20,000 for surveys. At that rate we will take about 15 years to complete the studies that we have already been authorized.

The next item is the Hilo seawall. That project has been authorized. The study is being completed. We hope to have the study ready to reach your committee during the next session of Congress.

Mr. KLUCZYNSKI. Is there some objection to the seawall? Do all parties agree to it?

Lieutenant Colonel HATCH. The only objection has come from the owners of the hotel who fear that they will be endangered by the extended seawall. There may be objections from other parties along the harbor shore but none were recorded at our hearing. The general feeling is that a seawall should be built. There are other objections that the view of the harbor will be blocked, but all concurred that protection is more important than the view.

Mr. SCUDDER. What are your provisions of law on small-boat harbors? In my State of California, the State is interested in small-boat harbor improvements. They plan and cooperate with the Federal Government and put up the matching fund requirements necessary under the law. What provision has been made by the legislature of the Territory to have matching funds raised? To assist the Federal Government in their program, at the present time, the State of California is providing engineering surveys for some of the harbors. The point is to get them surveyed, then the county can recommend to the State a small-boat harbor for approval.

Mr. WACHTER. I would like to make one thing clear. The Territory to date has provided all money for small-boat harbors with no Federal assistance. Secondly, evidence to the committee shows that the community would be in favor of the appropriation of funds for improvement of harbor projects for small boats. We should have some assistance in studying the small boat problems to enable us to properly locate the harbors, and to provide cooperation with the Federal Government as far as matching funds are concerned.

Mr. MACK. It is my understanding that the gasoline tax on small boats is used exclusively to help pay for the entire cost, or a portion, of the harbor recreational facilities; is that right?

Mr. WACHTER. Yes, sir. Up to a few years ago, fuel tax collected of small boats and fishing boats went to the highway fund. At the request of the people operating the fishing fleet and recreation fleet, the law was changed to provide that fuel tax money go to a special fund for the operation and maintenance of small-boat harbors.

Mr. MITCHELL. An authorization to consider matching Federal money should be considered at this time. According to this program of yours, Mr. Scudder, funds are now available to us?

Mr. SCUDDER. We are working on the local participation and the Corps of Engineers in the past have participated.

Mr. WACHTER. The interest of the Territory is there and I am confident that we are all in favor of that.

Mr. KLUCZYNSKI. Any information you would like to add, Colonel?

Lieutenant Colonel HATCH. We have here, again, Hilo Bay with the proposed alinement of the sea wall. The Wailoa River runs here, at this point [indicating on the map]. There is an authorized flood-control project on the Wailoa stream. Flash floods which occur in the stream flood the city of Hilo within a few moments. A clearing and snagging project will be undertaken to clear debris driven up the river by the last tidal wave.

Mr. SCUDDER. Money was received from the Federal Government for this project?

Lieutenant Colonel HATCH. Yes, sir. We will advertise for that clearing in the spring. That is all I have to say.

Mr. KLUCZYNSKI. Thank you, Colonel Hatch. Our next witness will be Mr. Carroll. Give your name to the reporter and whom you represent.

TESTIMONY OF JAMES L. CARROLL, CHAIRMAN, PUBLIC IMPROVEMENTS COMMITTEE

Mr. CARROLL. Mr. Chairman and members of the Public Works Committee, I am James L. Carroll, chairman of the public improvements committee and representing the Hawaii Island Chamber of Commerce.

Mr. Chairman, I asked for some pictures to be shown of the destruction of the 1946 tidal wave. This [picture shown on a slide] shows what the front of Kamehameha Avenue was like after the tidal wave. Since 1946, I believe there was a smaller tidal wave in 1952 which didn't do too much damage, according to my knowledge. There was also a tidal wave this year which did considerable damage.

Mr. HULL. What was the estimated damage of the 1946 tidal wave?

Mr. CARROLL. I would say the damages were estimated at $17 million. In the 1946 tidal wave there were approximately 100 lives lost.

Mr. DOOLEY. You mentioned wave action causing damages this year. What type of damages?

Mr. CARROLL. In the wave action this year damages were confined mostly to small boats along the coast here [indicating on the map]. We have noted wave action along this coastal point coming along the entire bay and out again causing destruction on the way. At this time, I would like to submit this statement for the record which I am going to read.

SEAWALL FOR HILO BAY

The Hawaii Island Chamber of Commerce endorses the construction of a seawall for the protection of the city of Hilo, Hawaii. Our organization comprising 520 businessmen on the Island of Hawaii, by action of the traffic and transportation committee and the board of directors, takes this stand because it believes that any project which will provide protection from loss of life and property in the city is worthwhile. We understand that the seawall, as proposed by the United States Army engineers for control of seismic wave damage, is such a project. Our organization goes on record as being ready to cooperate and assist in any way possible to accomplish this purpose.

The position taken by the chamber of commerce, this morning, is no different from that taken in 1950 when it endorsed construction of a seawall. It is noted that the present proposal calls for a wall 7 feet higher than that originally proposed. Our organization is not qualified to consider the engineering aspects of such a project. Its endorsement is based on the assumption that the proposal will provide adequate protection from possible damage by tidal wave.

The Hawaii Island Chamber of Commerce also notes that over the years a number of projects have been recommended by different parties to solve problems in the Hilo Harbor. For example, at one time a model was made of the harbor and as a result of the study of this model it was recommended that the construction of two groins would control the surge within the harbor. We understand that at a later date this was believed inconclusive because the model of the harbor was inadequate.

At still another time, it was suggested by engineering authorities that an additional breakwater extending from the shore of the Hamakua coast would provide a solution to the surge problem. A still further suggestion was to build the present breakwater higher and stronger.

The Hawaii Island Chamber of Commerce in endorsing this current seawall proposal recommends that a review of these prior possibilities for solution to the seismic wave damage problem also be considered.

It is sincerely hoped that efforts to answer these problems will be pushed forward so that the project can be completed at the earliest possible date.

This statement is authorized and approved by the traffic and transportation committee and the board of directors of the Hawaii Island Chamber of Commerce.

Thank you, gentlemen, for your kind attention.

Mr. KLUCZYNSKI. Without any objection, it is so ordered to be included in the record. Just a moment, Mr. Carroll, some members wish to ask you some questions.

Mr. MACK. When a tidal wave comes, what advance notice do the people of Hilo receive?

Mr. CARROLL. In 1946, we did not have an adequate warning.

Mr. MACK. An hour or 2 hours notice?

Mr. CARROLL. An hour notice was given to the police to clear the city in 1946.

Mr. HULL. Isn't there equipment here to register earthquakes and predict tidal waves?

Mr. CARROLL. Yes; we do have a seismograph to record earthquakes and indicate possibility of a tidal wave on this island. The forewarning is dependent upon the location of the earthquake. If the center of the earthquake is recorded about 6,000 miles away, several hours warning can be given.

Mr. KLUCZYNSKI. Any further questions to Mr. Carroll? No further questions. Thank you for your excellent statement, Mr. Carroll. Our next witness will be Mr. Santos. (Mr. Santos was not present at the hearing.) Let us proceed to highways.

Mr. MITCHELL. I feel that someone should say something on small boat harbors. I would like to say a few words on the subject since Mr. Santos is not here.

Mr. KLUCZYNSKI. You may proceed.

Mr. MITCHELL. I feel that the interest in small boating as a means of family recreation has already been recognized here in the islands. Your seaways on the mainland, the new St. Lawrence seaway and the inland waterway are simply terrific.

We have many problems, and one of them is the need for small boat harbors for boating recreation in the Territory. The Hawaiian waters provide good fishing grounds for either sport fishing or commercial fishing. Refuge harbors for small boats are needed along the island chain.

There is no better agency than the United States engineers to indicate where the harbors for small boats should be located. From Hilo, around South Point, to Kailua, Kona, there is not a small boat harbor. There is no haven for small boats. If a boat has motor trouble or an

accident, or anything else in this area, with the trade winds in this direction, it will be lost.

We feel that the Federal Government should do the same as it is doing on the mainland. We feel that it should participate with a local sponsor in the creation of small boat harbors in the Territory of Hawaii. We would like to utilize the engineers' experience of the Corps of Engineers to determine where these small boat harbors should be located. The Territory of Hawaii is ready and willing, as a local sponsor, and we would like Federal assistance with this problem.

Mr. HULL. I would like to ask Mr. Wachter a question. I believe that something was mentioned about the last legislature appropriating money for small boat harbors, am I right?

Mr. WACHTER. I believe it was $25,000.

Mr. KLUCZYNSKI. That completes your statement, Mr. Mitchell?

Mr. MITCHELL. Yes, sir; that completes my statement.

Mr. KLUCZYNSKI. Mr. Mitchell, what is the situation of the Coast Guard out here in the islands? Are they doing a good job? Are they undermanned?

Mr. MITCHELL. In my opinion, I think they are doing an excellent job.

Mr. KLUCZYNSKI. I am glad to hear that.

Mr. MITCHELL. They give safety instructions to the small-boat owners and also make periodic inspections. At the presesnt time, I think they are a little undermanned.

Mr. Goss. Mr. Chairman, I want to go on record as saying that the Coast Guard out here is doing a very good job and is very cooperative.

Mr. KLUCZYNSKI. Thank you.

If there are no further questions, we shall proceed on highways. Our next witness on highways will be Mr. Kuwaye. Give your name to the reporter and whom you represent.

TESTIMONY OF YASU KUWAYE, MEMBER, HAWAII ISLAND CHAMBER OF COMMERCE, AND TRAFFIC HAWAII COMMITTEE

Mr. KUWAYE. Mr. Chairman and members of the Public Works Committee, my name is Yasu Kuwaye, member of the Hawaii Island Chamber of Commerce, of the Traffic Hawaii Committee.

Our present highway system is inadequate to meet the needs of today's traffic—not to mention the increased traffic of future years. The 1955 legislature, in recognition of the inadequacy of our highways, authorized a $50 million fuel-tax bond issue. The act of the Territorial legislature was approved and ratified by Congress in 1956.

The Territory of Hawaii receives annual apportionments of Federal aid, primary, secondary, and urban funds, on the same formula basis as do the 48 States and the District of Columbia. The motorists of Hawaii also pay the Federal automotive user taxes, which Puerto Rico does not.

The amount of automotive user taxes paid in 1955 was estimated by the Bureau of Public Roads at $7,275,000. This is more than the amount paid by Vermont and Nevada; over twice that of Alaska. We roughly estimated that the amount paid in 1957 will be $9 million

because of the increased taxes levied by the Highway Revenue Act of 1956. Hawaii's 1959 apportionment was considerably less than the apportionments of $16 million, $29 million, and $13 million for Vermont, Nevada, and Alaska.

The Federal automotive user taxes were increased by the Highway Revenue Act of 1956 mainly to finance the National System of Interstate and Defense Highways. We pay these increased taxes, yet we do not participate in the interstate program because the Interstate System is limited to the continental limits of the United States.

Hawaii plays an important role in the defense of our Nation because of its strategic position in the Pacific. Because of the large number of military facilities here, particularly on Oahu, we have defense highway needs.

The 1957 Territorial legislature, by joint resolution, requested Congress to establish a defense highway system and to authorize appropriations therefor. On September 10, 1957, we received from the Army a set of maps depicting the routes that would meet the defense highway needs of the Army, Navy, and Air Force.

There are two routes of importance to the military on Hawaii. One could connect the ports of Kawaihae and Hilo via the Pohakuloa training area and the other would extend from Hilo to a proposed installation at South Point. Many of the existing roads on the system have been improved to standards which we felt to be adequate for either military or civilian needs. The cost for the improvement of the remaining mileage will depend upon the standards which are to be used.

This will require considerable study but we do not feel that the standards adopted for the Interstate System are justified for all roads on the proposed Hawaii Defense System. It is most important that the Defense Highway System be established and that the most urgent construction be started immediately. We propose, therefore, that action be taken in the next session of Congress to: (1) Authorize the establishment of the Hawaii Defense System of 300 miles in extent. (2) Authorize funds for improvements to the system so that work can get under way. We will request the next session of Congress to authorize for the Hawaii Defense Highway System an amount totaling $19,312,500 for the 1960 and 1961 fiscal years. This would be matched with Territorial funds on a 90–10 basis. We will request that subsequent authorizations be of sufficient amounts to complete the needed improvements within a reasonable period of time and that these amounts be determined on the basis of accurate and detailed cost studies such as are required by section 108d of the 1956 act.

It is most urgent, gentlemen, that action be taken in the next Congress to get construction started in the Hawaii Defense Highway System. We cannot wait for estimates nor can we delay the program for a determination of standards and locations. These can be made later, just as they were for the Interstate System. While Hawaii will benefit by a completed system of interstate highways, the defenses of the United States will be strengthened by a completed system of defense highways in Hawaii.

Mr. MACY. In Honolulu the other day, at a similar hearing to this, a suggestion was made to correct the injustice of the Federal Government collecting defense highway taxes from Hawaii and Hawaii in

return receiving nothing. A suggestion was made to give Hawaii back the taxes that they paid in to be spent on roads as they desired. We are doing a great injustice by collecting $9 million a year. I think the easiest way to correct this situation is to return the money to the Territory and let it spend this money on highways.

Mr. KLUCZYNSKI. I want to know how you feel about it personally.

Mr. KUWAYE. I feel that our United States is the greatest country in the world, and we want to pay our share of taxes, but $9 million annually would build enough defense highways for Hawaii.

Mr. SCUDDER. I would like to clear up one misapprehension. I believe the people in the islands do not understand that the Federal Defense Highway System was set up for the purpose of getting troops and supplies back and forth and up and down the entire United States in case of war. Now, the only reason for this defense highway being set up was to get troops from east to west and north to south. As I see it, your problem here is one of building highways for military and civilian use. You just don't fall in the same category of connecting highways. In my State of California, we wanted Highway 101 to be part of the Defense Highway System, but since part of Highway 101 runs along the coastline, it was ruled out because a submarine could bomb it and it would not serve its intended purpose. States like Arizona, New Mexico, and Nevada are receiving more than what they are paying into the fund. The purpose of the act is that the movement of troops and supplies can flow freely on connecting highways from San Francisco to New York and to other points. I realize the Hawaii situation and something should be done about it.

Mr. KLUCZYNSKI. Mr. Gray.

Mr. GRAY. On the map outlining the highway system—could you please flash on the map of the island so that I could ask a few questions [statement directed to the slide operator]. Are there roads completely around the island, Mr. Wachter?

Mr. WACHTER. This here [indicating on the map] is a complete road around the island. A portion of this road is Federal-aid project, just up to the main highway.

TESTIMONY OF HELENE HALE

Mrs. HALE. I am Helene Hale and I would like to point out the proposed road from Kohala to the Kona District along the coast here [indicating on the map], which is not accessible. If the secondary system of roads is not built, it is necessary for industries in this part of the island to haul their supplies over this mountain [indicating on the map]. There is a large sugar plantation here which has to take its sugar products over the mountain, and it is not very satisfactory and economical. We propose that a highway be built from Kohala to Kawaihae Harbor.

Mr. GRAY. What is the distance?

Mrs. HALE. About 10 miles.

Mr. GRAY. Flat country?

Mrs. HALE. I am not an engineer so I can't say, but the road isn't going over a mountain.

Mr. GRAY. What other areas will the road serve?

Mrs. HALE. The other areas accessible to Kawaihae are Kailua, Kona and even farther. I would like to point out the South Point area here and the volcano area here along this road [indicating on the map]. The plan of economic development of the Territory shows this area has many opportunities. There are beaches and residential sites that can be developed along the Kona coast, which you will visit tomorrow and which also happens to be my district. We do need an adequate Kailua beach road farther along in that area.

Mr. GRAY. You think a road is needed along the coast?

Mrs. HALE. I want to say along here [indicating on the map] to the South Point resort area.

Mr. GRAY. About 50 to 70 miles of roads needed along that part of the island?

Mrs. HALE. I don't know the exact mileage needed, but a road is needed to connect Kilauea crater area to the county road along this way [indicating on the map] to the Puna area. County roads are needed between here [indicating on the map] and here. At the present time you cannot go from the crater to the Puna area without going almost to Hilo. During the 1955 lava flow these roads were completely cut off.

Mr. GRAY. Are there presently any roads under construction or under contract, Mr. Wachter?

Mr. WACHTER. We have under contract 3 miles of road in this area of Hawaii, in the Puna area down here [indicating on the map]. The project will be started this year.

Mr. GRAY. Are you making progress on roadbuilding?

Mr. WACHTER. The progress is slow. We have seven more projects which the Territorial highway department, with Federal aid, will undertake within the next 6 years.

Mr. GRAY. What system of roads?

Mr. WACHTER. The road system you see on the map [indicating on the map] is the Federal-aid system; however, the improvement of the roads to Federal-aid standards is dependent upon proper apportionment of fuel tax on the island of Hawaii in proportion to the amount collected throughout the Territory.

Mrs. HALE. This is the Saddle Road across the island. A side road will be built to connect the town of Puuanahulu with the Saddle Road. This has been proposed for many years. In fact, at one time work was started on the survey. The Territorial highway department and board of supervisors are going to request that it be put on Federal aid system. That road will go straight across the island to Kona. I would like to point out that this road was built by the Army during World War II and it was built for defense purposes to get access to the other side of the island. The Army is unloading their supplies at Kawaihae and using this road for access to Pohakuloa training area. Because of the lack of Territorial funds the county is maintaining this road. It is felt that this road should be included in the Defense Highway System. It is a primary defense road because it serves the Pohakuloa training area.

Mr. MACK. I would like to point out that the Defense System includes 40,000 miles of highways in the United States. The act provides for 40,000 miles of 4-lane divided highways to move troops and supplies through densely populated areas. It seems to me the problem here is more 2-lane highways and less 4-lane highways.

Mr. WACHTER. We are not asking for the same standards as used on the mainland system, but standards to be adapted to the actual needs of the Territory, whether 4-lane divided highway or 2-lane highway. We should base our need on a study as provided in the 1956 act, to ask that we be included in the program of national appropriation made to this system. A study by the Bureau of Public Roads and military departments would establish what we actually need to provide satisfactory roads to meet the needs of both the military and civil traffics on our public roads in the Territory.

Mr. KLUCZYNSKI. If there are no further questions, this hearing will recess for 15 minutes.

(The hearing was recessed for 15 minutes.)

Mr. KLUCZYNSKI. The hearing will come to order. The hearing on highways has been completed and we have heard all the testimonies. Now we shall hear from Mr. Peter Pakele on the Hilo lava barrier. Just a moment, Mr. Pakele, Mr. Goss desires to say a few words.

Mr. Goss. I want to say that I have belonged to the Hawaii National Guard for the past 20 years. We are faced with the problem of a training area for the Armed Forces that are stationed in the Territory. At the present time, the majority of the troops are concentrated on Oahu, where the training area is not adequate. It is necessary to bring troops out to the neighbor islands for training, and the Pohakuloa training area on this island is an ideal place. We have an excellent National Guard group throughout the islands. The improved roads for defense are necessary. Thank you.

Mr. KLUCZYNSKI. Thank you for the additional information.

Mr. Pakele, you may proceed with your testimony on the Hilo lava barrier. Give your name to the reporter and whom you represent.

TESTIMONY OF PETER PAKELE, DIRECTOR, ISLAND OF HAWAII CIVIL DEFENSE

Mr. PAKELE. Mr. Chairman and members of the Public Works Committee, I am Peter Pakele. I am the director of the island of Hawaii civil defense.

Good mobility on roads is necessary, not only to move troops but also for civil defense, in the event of evacuation of portions of the island's residents.

The whole island is interested in a lava barrier. The lava barrier would not stop the flow of lava, but it would divert it away from the town of Hilo. A lava barrier will work, as was proven in the last eruption in the Puna district.

In the 1955 lava flow, the flow was 12 miles away from the town of Hilo. What we should do is to get the appropriation now and not wait for a similar lava flow as that of 1881 which came to about a mile from the beach at Hilo. The lava flow could close the Hilo Harbor.

Mr. HULL. Which mountain does the lava come from?

Mr. PAKELE. This one here is Mauna Loa [indicating on the map] and this one here is Kilauea. Both are active.

Mr. HULL. That one there is Kilauea, where the last lava flow came from?

Mr. PAKELE. That's right, sir. That one will erupt again. I would like to convince you people that a lava flow can be stopped. In 1955 I rode up to the lava flow by horseback and got very near. The lava flow came down the mountain 35 feet high. Now during the last lava flow, Mr. Yamada made 3 dikes 25 feet high and proved to the general public that the lava flow could be diverted. The lava flow comes down and as it cools, the lava backs up. At the present time we need the lava barrier on the island of Hawaii to change the course of the lava flow so that there will be no possibility of the town of Hilo being in danger.

Mr. KLUCZYNSKI. Was a survey made on the lava barrier in Hilo?

Mr. PAKELE. There was a survey made in 1947. At that time I was in the Territorial legislature. In 1947 we again considered the lava barrier in the legislature, and also in 1951.

Mr. KLUCZYNSKI. Do you know the cost of the dike Mr. Yamada built during the last lava flow?

Mr. PAKELE. I have no idea, but Mr. Yamada is here. He may be able to answer that question.

Mr. YAMADA. I would say about $5,000 for a thousand feet. Of course, it depends on the material. I built 2,222 feet of dike in 17 hours.

Mr. HULL. Lava comes in considerable force?

Mr. PAKELE. It does. It travels up to 40 miles an hour.

Mr. KLUCZYNSKI. Thank you, Mr. Pakele. Now, on flood control we will hear from our good friend, Mr. Robert Yamada.

TESTIMONY OF ROBERT YAMADA, CHAIRMAN, PUBLIC WORKS COMMITTEE, BOARD OF SUPERVISORS, COUNTY OF HAWAII

Mr. YAMADA. Mr. Chairman and members of the Public Works Committee, I am Robert Yamada, chairman of the public works committee, Board of Supervisors, County of Hawaii.

It is a pleasure to appear before your committee. We appreciate your visit to our island to hear and see our problems first hand.

I would like to present the problem of flood control in Hilo. The 81st Congress approved a portion of the Wailoa Stream flood-control project which was approved by the Secretary of the Army and the Secretary of the Interior. We have three problems in the Hilo area; the lower Waiakea section of Wailoa River which was approved, and the lower Hilo section and upper Waiakea section of Wailoa Stream which were not approved as the cost could not be justified.

We have floods ever 4 or 5 years with damages of $10,000 to $20,000.

Mr. HULL. Those are flash floods?

Mr. YAMADA. That's right. This area has developed fast in the last 5 years. We would like to have you people give us an appropriation to improve the lower Waiakea section of the project that has been recommended by the Corps of Engineers. The improvement would include the construction of a diversion dike and channel to combine the flows of Kawili Stream with Waiakea Stream above the city of Hilo, improvement of the present Waiakea Channel embankments and construction of a new channel outlet for Waiakea Stream with necessary flanking levees along the lower portion of its length.

Mr. HULL. Has it been authorized?

Lieutenant Colonel HATCH. Yes, sir. The project has been authorized.

Mr. HULL. What is the benefit-cost ratio?

Lieutenant Colonel HATCH. The average annual costs are $21,900, the average annual damages are $26,600, and the benefit-cost ratio is 1.2 to 1.0.

Mr. YAMADA. We had a flood about 4 weeks ago. Some of the homes were covered with 4 to 5 feet of water. We ask consideration by Congress for relief from this problem of floods. I hope that the members of the Public Works Committee here can see their way clear to give us relief which we will appreciate very much.

Mr. KLUCZYNSKI. Any questions to Mr. Yamada? Mr. Mack.

Mr. MACK. Our committee can only authorize it. The problem under discussion has been authorized, and it is a matter of waiting for an appropriation before work can be started.

Mr. KLUCZYNSKI. Any further questions by the committee? No questions. Thank you, Mr. Yamada.

Mr. YAMADA. We want to thank the Public Works Committee, and we ask that our request for appropriation be speeded up during the next session of Congress.

Mr. KLUCZYNSKI. Is there anyone else who would like to make a statement for the record?

Mrs. HALE. The Kona area was recognized by the Territorial legislature as the most potential area in Hawaii for development. Because of the expanding tourist business in Kona, we are called the second Waikiki and we are working to be in first place. The fishing out here is great. I hope that when you get down to the Kona coast you will be able to try your luck in fishing. Kona is a terrific vacation area. I hope that you will have a little time for fun while you are here. You are scheduled to visit Kona tomorrow along this road, one of the worst roads on this island.

Our No. 1 problem is water. The last legislature appropriated $1,500,000 for capital improvement. We need water sources for domestic purposes and for irirgation. The irrigation water runs short and is hauled in tanks to individuals. I realize that the domestic water shortage is great in this area and something should be done about it, something that you could do under your jurisdiction as Members of Congress. I am sure you will be able to do something. Water is our No. 1 problem and roads are No. 2. Harbors are probably No. 3. These are some of the problems we are faced with here that I have just presented to you.

Mr. KLUCZYNSKI. Thank you, Mrs. Hale. The Chair now recognizes Mr. Scudder from the State of California.

Mr. SCUDDER. Mr. Chairman and members of the committee and friends, the committee appreciates your turning out to give us information on the problems you have. We are on a tour of the islands and are looking into your problems, and we are endeavoring to be helpful. As the chairman of this committee has stated, there are certain limitations we are bound by. The matter of irrigation comes under the Bureau of Reclamation; military highways come under the Military Committee. We had a man from the Military Committee in Honolulu just about 2 days ago looking over the military situation. We have naturally asked a lot of questions so that we will be able to bring back all of the facts that can possibly be of assistance to us.

Your problems get the same consideration as problems in every State in the Union. The tax money we have is going to be spread along to do the most good for most people and therefore we have to invest it on priority projects. We are sure every project we have looked at in this area will be given sympathetic consideration by the committee.

The duties of this committee are to authorize projects. When you realize that we now have some $12 billion of projects authorized in our country, there are some that never will be started. So the problem is trying to find the more necessary projects. By our authorization, it is sometimes only a resolution asking for appropriation of more money to make surveys.

You do have many problems here, and I am sure this committee will cooperate in every way. I am certain that if a model study of the harbor is conducted, it will develop scientific knowledge to solve the problems of tidal waves and surge in the harbor. You have a problem with lava flow that is a threat to the city of Hilo and I am sure that the engineers will work out a solution to that problem.

One has to travel to this great Territory to appreciate the reception we have been given, the cooperation we have received, and all the helpful information that was given here today. Now we have a better understanding of the situation here and can make our recommendation to the Congress when it convenes. I want to thank everyone here for being so cooperative and to Colonel Hatch and staff for making this possible, thank you.

Mr. KLUCZYNSKI. Thank you, Mr. Scudder. The meeting is adjourned.

(Letter received for insertion follows:)

JAPANESE CHAMBER OF COMMERCE AND INDUSTRY OF HAWAII,
Hilo, T. H., August 28, 1957.

Lt. Col. MCGLACHLIN HATCH,
District Engineer, Corps of Engineers,
Honolulu, T. H.

DEAR COLONEL HATCH: This is to inform you that the Japanese Chamber of Commerce and Industry of Hawaii has conducted a general survey of the bayfront business establishments and residence with reference to the proposed seawall, and find that the vast majority will like to see the protective wall constructed with a minimum loss of time.

We have found no objections to the construction of a seawall by anyone doing business, owning property or residing in the area all along Kamehameha Avenue, from the mouth of the Wailuku River to the Wailoa River estuary. However, we did hear a few objections from business firms on the other side of Wailoa River.

In two instances, questions was raised as to what will be done with the mouth of the Wailoa River. The parties concerned were wholeheartedly in favor of the seawall, provided that a lock or some method is devised to keep the waves from entering the river.

Objections were also received from residents and businesses in the Reed's Bay area. They felt that with the construction of the wall, as proposed by the Army engineers, the force of the seismic waves may be much greater in that area than heretofore.

In still another instance, an establishment felt that the wall will conceal the fine view it now affords of Hilo proper from where they are located, and this may affect their business.

Except for a few isolated cases, the survey showed that the people on the shorefront want a wall that will primarily protect life and property, and that view was secondary. However, if the wall can be built without sacrificing view, then that is what they want.

We will like to point out here that there has been practically no objections as to the engineering aspects of the project. It is generally felt that the proposed project has been given careful study by the United States Corps of Engineers, and so, what they propose should be best for Hilo.

There have been a few expressions by property owners and businessmen in the Reeds' Bay area that consideration be given to the construction on the Waiakea end, which will tend to throw the force of the waves back into the bay, and not toward the Reed's Bay section.

We have come across several people who have felt that instead of the bayfront seawall, that another breakwater jutting out from the Hamakua coast beyond the existing breakwater, and the raising of the existing breakwater will better solve the problem. Whether or not this assumption is correct, and whether or not this is feasible is a matter we bring before you for consideration.

The constant threat and frequent warnings of possible seismic waves against devastating the bayfront area places those residing and doing business in that area in a very uncomfortable and unfavorable position.

In order to help these people, the board of directors of this chamber at a special meeting called on the 18th day of March 1957, adopted a resolution, copies of which were forwarded to the Honorable John A. Burns, the Honorable Gov. Samuel Wilder King, and the Honorable Senator William H. Heen, the Honorable Representative O. Vincent Esposito, and the Honorable Chairman James Kealoha, requesting and urging them to use their good offices to speed the construction of a protective wall. We are herewith attaching a copy of that resolution for your perusal.

After presenting you the facts, we can draw but one conclusion, and that is, the residents, property owners, and business establishments in the bayfront area are very anxious to see the wall become a reality at the earliest possible date, with due consideration given to those areas that will be adversely affected.

In behalf of the Japanese Chamber of Commerce and Industry of Hawaii, I wish to thank you for the opportunity given us to delve into a subject matter so vital to the welfare and economic growth of this city.

Very sincerely yours,

RICHARD R. TANIGUCHI,
President, Japanese Chamber of Commerce and Industry of Hawaii.

P. S.—With reference to paragraph 3, the United States Engineers have assured a lock will be provided at the mouth.

PUBLIC WORKS PROJECTS OF HAWAII

FRIDAY, NOVEMBER 15, 1957

HOUSE OF REPRESENTATIVES,
COMMITTEE ON PUBLIC WORKS,
SUBCOMMITTEE ON ROADS
Wailuku, Maui, T. H.

The subcommittee met, pursuant to notice, at 4:30 p. m., Hon. John C. Kluczynski presiding.

Mr. KLUCZYNSKI. The meeting of the House Public Works Committee will come to order. First of all, Mr. Mayer and ladies and gentlemen, I am very sorry that we are 1½ hours late, but due to some unfortunate circumstances we were detained in Hilo. We were supposed to have arrived here at 3 o'clock. I want you to know that we wanted to be here on time to listen to your statements and testimonies. For the record, I am John Kluczynski, of Illinois, acting chairman of this subcommittee, and with us we have Congressman Russell Mack of the State of Washington; Congressman W. R. Hull, Jr., of Missouri; Congressman Hubert Scudder, State of California; Congressman Emmet Byrne of Illinois; and Congressman Edwin Dooley, of New York. With us we also have Mr. Robert McConnell and Mr. Marshall Gerber. We shall start this hearing by calling upon Colonel Hatch.

TESTIMONY OF LT. COL. McGLACHLIN HATCH, DISTRICT ENGINEER, UNITED STATES ARMY, DISTRICT OF HONOLULU—Resumed

Lieutenant Colonel HATCH. Mr. Chairman and distinguished members of the committee, it is a pleasure to start off with an orientation on Corps of Engineers' projects.

We are on the island of Maui in this general area [indicating on the map of Maui] in a valley between two big mountains. We are in the town of Wailuku. The harbor of Kahului is the principal harbor of the island.

The islands of Molokai and Lanai are also under Mayor Tam's jurisdiction. There is a barge harbor on the island of Molokai called Kaunakakai Harbor, which we will see tomorrow on the way back to Honolulu.

I would like to mention the Iao Stream, which is shown on the map here [indicating on the map]. In the past, Iao Stream has inflicted severe damage and caused the loss of many lives in the Wailuku area.

We have previously discussed the problem of small-boat harbors on this island. A study or harbors for light-draft vessels has been authorized. Work on this study was started in January 1951 and suspended in October 1951. There are no funds available to reopen the study.

On the island of Maui, there is a small-boat harbor at Lahaina. I understand there is an interest growing here toward a deepwater harbor in this particular area.

Now, to go back to Kahului Harbor. Kahului Harbor is in the large bay here [indicating on the map]. We have discussed this harbor in Honolulu. If you will recall, there are two breakwaters and there is danger as ships come through the entrance. They are required to make a turn with a broadside to the wind. The wind forces ships across the channel and to the south side of the harbor where it is shallow. For this reason, a study is underway to determine the feasibility of enlarging the harbor. It is expected to be completed this year and I hope it will be ready for your committee by the next session of Congress.

Mr. KLUCZYNSKI. Thank you, Colonel. Any questions to the colonel?

Mr. MACK. Colonel Hatch, on the matter of flood control, this committee can't do anything until the engineers have submitted a report to us; is that correct?

Lieutenant Colonel HATCH. That is correct. We are somewhat proud of Kahului Harbor. We completed the first project in the United States using tetrapods. Each tetrapod weighs about 33 tons and in quantity they protect the ends of the breakwaters.

Mr. MACK. What is the authorized depth, colonel?

Lieutenant Colonel HATCH. Thirty-five feet, sir.

Mr. SCUDDER. Just for my own information, where was the first tetrapod used in the United States?

Lieutenant Colonel HATCH. Crescent City, Calif., saw the first tetrapods cast, but we understand that the first few failed and that we may have had the first successful one. We did have the first completed tetrapod project.

Mr. KLUCZYNSKI. Mr. Dooley, any questions?

Mr. DOOLEY. No questions.

Mr. KLUCZYNSKI. Thank, you colonel.

Ladies and gentlemen, I am proud to be in this community and your beautiful island. As you know, we are an important committee in Congress. The Committee on Public Works has four subcommittees—the Committee on Roads, the Committee on Rivers and Harbors, the Committee on Flood Control, and, also, the Committee on Public Buildings.

We are here not as an investigating committee but to listen to your problems. You can be assured that I will not cut anybody off. The testimony the witness gives is recorded and when we get back to Washington, and when this committee meets with the full Committee on Public Works, I can assure you we will do everything possible to help you with your problems.

The next witness will be Mr. Charles DuBois. State your name to the reporter and whom you represent.

TESTIMONY OF CHARLES DU BOIS, PRESIDENT, MAUI CHAMBER OF COMMERCE

Mr. DUBOIS. Mr. Chairman and members of the Public Works Committee, I am Charles DuBois, president of the Maui Chamber of Commerce, and as such, represent the business community.

I would like to point out that unlike most communities, this island depends entirely upon our only harbor at Kahului to handle all of our freight, both incoming and outgoing, with the exception of the comparatively little freight that can be flown through our airports.

We have very definite plans for the industrial development of this island's economy during the next decade. Included in these plans are the development of two large tourist hotel areas—one at Makena on the south shore, and one at Lahaina on the west end of the island. Competent surveys indicate vast increases in tourist activity in this direction and assures this need.

At the present time, passenger ships do not use Kahului Harbor because of the risk involved. Enlargement of the harbor to accommodate passenger vessels of the *Lurline* class will accelerate this development. It will also be possible for the larger freighters to call at this island port. We feel that this is very necessary to our plans for the economic development of this community, as well as for the safe, uninterrupted operation of our only harbor, the lifeline of our economy.

I have here a resolution passed by the Maui Chamber of Commerce urging your favorable consideration of Kahului Harbor, the Iao, and Kihei flood-control projects, Maalaea and Lahaina small-boat harbors, and the Federal building in Wailuku. Mr. Chairman, I want to read this resolution and ask that it be made a part of the record.

Whereas the island of Maui is on the threshold of expanding economic development with multi-million-dollar resort developments contemplated in Kaanapali and Keawakapu; and whereas construction of a new hotel is now under way in Iao Valley and a new motel is planned on the slopes of Haleakala; and whereas concerted effort is being directed toward the establishment of a military base on Maui; and whereas attendant with these developments will be the development and growth of supporting and supplementary industries in services and retailing; and whereas in order to move forward in balance, the orderly completion of public-works projects now pending is essential; and whereas any prolonged delay in completion of pending public projects may retard economic development of privately financed projects: Now, therefore, be it

Resolved by the Maui Chamber of Commerce by action of its board of directors on November 5, 1957, That it does by this resolution respectfully request and strongly urge the honorable members of the House Public Works Committee of the Congress of the United States, assembled in public hearing in Wailuku, Mani, T. H., this 15th day of November 1957, that they give the following projects, namely, the enlarging and widening of Kahului Harbor; the dredging and improvement of Lahaina boat harbor; the dredging and improvement of Maalaea boat harbor; the erection of a combined Federal office-post office building in Wailuku; the Iao flood-control project; the Kihei flood-control project; and the Federal highways in the county of Maui each vital to the health, welfare, and economy of the county, their fullest consideration so that steps toward the completion of these projects can be undertaken at the earliest possible date; and be it further

Resolved, That a certified copy hereof be transmitted to the honorable chairman and members of the House Public Works Committee of the Congress of the United States; the Honorable Fred A. Seaton, Secretary of the Interior; the Honorable Arthur Summerfield, Postmaster General; the Honorable John A. Burns, Delegate to Congress from Hawaii; His Excellency William F. Quinn, Governor of the Territory of Hawaii; the Honorable William Wachter, Superintendent of Public Works, Territory of Hawaii; the Honorable James O. Yapp, Manager and Chief Engineer, Board of Harbor Commissioners; the district engineer, United States Army Engineer District, Honolulu; and the Honorable chairman and members of the Board of Supervisors of the County of Maui.

Thank you, sir.

Mr. KLUCZYNSKI. Thank you. Are there any questions to Mr. DuBois?

Mr. DOOLEY. Mr. DuBois, there are no passenger ships using the Kahului Harbor?

Mr. DUBOIS. Freighters that carry passengers use the harbor, but they are not considered as regular passenger carrying ships. We feel that ships like the *Lurline* would increase the tourist trade here in the island of Maui.

Mr. KLUCZYNSKI. Thank you, Mr. DuBois. Our next witness is Mr. C. J. Burnett, Jr. Give your name to the reporter and whom you represent.

TESTIMONY OF CHARLES J. BURNETT, JR., MANAGER, KAHULUI RAILROAD CO.

Mr. BURNETT. Mr. Chairman and members of the Public Works Committee, I am Charles J. Burnett, Jr., manager of the Kahului Railroad Co.

I will not take much of your time here. I will make a brief presentation in connection with the preliminary survey of Kahului Harbor which Colonel Hatch has covered in detail. I am very happy to hear that the Kahului Harbor was mentioned to you in Honolulu.

I would like to present each member of the Public Works Committee here with this presentation to the United States Engineers in public hearing on the necessity for enlarging the Kahului Harbor," dated April 24, 1956, at Kahului, Maui, and corrected to October 25, 1957. I hope you will take this back with you and look at it at your leisure time.

A few comments, I think on this harbor and why we need a larger turning basin should come from the man who uses it the most, Capt. Eric Stein. He is the harbor master who brings in and takes out the ships from the harbor.

Mr. KLUCZYNSKI. Are there any questions to Mr. Burnett?

Mr. BYRNE. Mr. Burnett, you want this presentation to be made part of the record?

Mr. BURNETT. Yes; I would like to have it made part of the record.

(Material about Kahului Harbor is as follows:)

PRESENTATION TO THE UNITED STATES ENGINEERS IN PUBLIC HEARING ON THE NECESSITY FOR ENLARGING THE KAHULUI HARBOR

CORPS OF ENGINEERS, UNITED STATES ARMY OFFICE OF THE HONOLULU AREA ENGINEER, SAN FRANCISCO DISTRICT,
Honolulu, T. H., February 24, 1956.

NOTICE OF PUBLIC HEARING ON KAHULUI HARBOR FOR ENLARGEMENT OF TURNING BASIN

Pursuant to a resolution adopted April 21, 1953, by the Committee of Public Works of the House of Representatives, United States Congress, the Honolulu area engineer of the San Francisco District, Corps of Engineers, United States Army, has been directed to make a "review of reports on Kahului Harbor, island of Maui, T. H., submitted in House Document 235, 69th Congress, 1st session, and other pertinent reports, with a view to determining the advisability of enlarging the turning basin at the west end of the harbor."

In order that the required report may fully cover the matter, a public hearing will be held in Wailuku, Maui, T. H., at the county meeting hall, on April 24, 1956, at 10 a. m.

For your information, the existing project provides for east and west breakwaters, an entrance 600 feet wide between the breakwaters, and a basin in the lee of the east breakwater 35 feet deep and about 2,000 feet long with a maximum width of 1,450 feet.

All interested parties are invited to be present or represented at the above time and place including representatives of Federal, State, county, and municipal agencies, and those of navigation, commercial, industrial, and civil interests, and property owners concerned. They will be afforded full opportunity to express their views concerning the character and extent of the improvement desired and the need and advisability of its execution. Sponsors of the harbor basin enlargement are urged to present pertinent factual material bearing upon the general plan of improvement desired, the benefits to be derived from the improvement, and the economic justifications of the proposed improvement. Testimonial data should be presented to cover specific points but not restricted to the following:

(1) Description of, extent, and location of improvements desired.
   (*a*) Size and characteristics of vessels using harbor (present and near future).
   (*b*) Dimensions of turning basin required (present and near future).
(2) Cite the inadequacies, if any, of the present harbor.
(3) Cite occasions, if any, when it would have been a definite advantage to have the desired improvements.
(4) Cite any navigation difficulties encountered because of the size of the present harbor basin.
(5) Cite benefits, monetarily, to be derived from an enlarged basin.
(6) Indicate the estimated increase of prospective vessel traffic, and estimated increase in tonnage of commerce.
(7) Indicate proposed terminal facilities to be constructed by local interests upon completion of the enlarged harbor basin.

Opposing interests, if any, are also urged to state the reasons for their position.

Oral statements will be heard but for accuracy of record all important facts and arguments are requested to be submitted in writing, in six copies, as the records of the hearing will be forwarded for consideration by the Chief of Engineers in Washington, D. C. Written statements may be handed to the undersigned at the hearing or mailed to him beforehand.

Please bring the foregoing to the attention of persons known to you to be interested in the matter.

SIDNEY SHELLEY,
Lieutenant Colonel, Corps of Engineers, Area Engineer.

FOREWORD

This presentation is made in accordance with the notice of the area engineer, Honolulu area, Corps of Engineers, United States Army of public hearing SPNGH 800.29, to be held April 24, 1956, on need for enlargement of Kahului Harbor, Kahului, Maui, T. H.

Statements herein submitted from the masters of Matson and Isthmian lines vessels best detail the need for improvement which has been known for some years. To implement the comments of these men, whose opinions are supported by some 20 and 30 years of sea experience, we would add the following observation:

The navigable portion of the harbor was designed originally for vessels of smaller size than those now in general service. Since 1929 there has been no widening of the harbor to adequately accommodate the increasing size of ships calling at the port. With one exception vessels using the harbor pre-World War II averaged 56 feet in beam and ranged from 324 to 424 feet in length. Present vessels serving Kahului in the main are the C–3 design, measuring 468.5 feet in length with 69.5-foot beam. Another class of ship, the Mariner, measuring 563 feet in length with 76–foot beam, also recently called at Kahului. Compared to pre-World War II days, this would indicate a gain of 100 feet in ship length and between 13.5 and 20 feet in beam for present-day vessels. This trend toward bigger ships has come from the search for economical operation. It is therefore not unreasonable to anticipate that in the not-too-distant future even larger ships will be calling at Kahului regularly and the harbor must be prepared to handle them or face the possibility of eventually being bypassed or stifled.

The inadequacies of the present harbor turning basin arise primarily because of insufficient east-west width, bearing in mind the prevalence of fresh easterly winds and the broadside exposure of lightly loaded ships to those winds as they turn sharply past the breakwater into the harbor.

The present east-west dimension of the turning basin is 1,450 feet which leaves insufficient leeway for the captain of a vessel to maneuver at the low speeds necessary inside the harbor without the danger of being blown by the winds to the shallows at the west edge of the basin. The hazards of the narrow turning basin are even further accentuated upon departure when vessels must back in a turn of almost 180 degrees which brings them dangerously close to the shallows. Earlier smaller ships did not have these navigational problems; the larger ships of the future will have even greater ones. Extension of the basin to a width of 2,100 feet would give the additional safety factor for a master to maneuver his vessel during brisk winds.

Over the last 20 years, freight tonnage moving through Kahului has increased by nearly 70 percent, to a total of 701,912 short tons in 1955, without significant gain in the number of vessels calling the port. This clearly reflects the trend toward larger ships. These figures also reflect the rate of tonnage increase which can be expected to continue with improvement of the harbor.

KAHULUI, MAUI, *April 24, 1956.*

RESOLUTION

Whereas the island of Maui, Territory of Hawaii, by way of necessity is dependent upon importation of foods, raw and processed materials, and others by surface transportation; and

Whereas Kahului Harbor situated on the island of Maui is important to the internal and external security of the island of Maui; and

Whereas Kahului is the only deep-sea harbor on the island of Maui, serving 39,100 people and imports and exports represent approximately 725,000 tons of cargo annually; and

Whereas it has been recommended by all the steamship companies using the port of Kahului that the harbor turning basin be enlarged in the interest of safety in the handling of present vessels entering and departing at Kahului and future vessels of greater gross tonnage to serve this port; and

Whereas there is at the present time considerable risk in bringing in the C–3-type vessels, Mariner-type vessels, and T–2 tankers; and

Whereas pursuant to a resolution adopted April 21, 1953, by the Committee on Public Works of the House of Representatives, United States Congress, the Honolulu area engineer of the San Francisco district, Corps of Engineers, United States Army, has been directed to make a "review of reports on Kahului Harbor, island of Maui, Territory of Hawaii, submitted in House Document No. 235, 69th Congress, 1st session, and other pertinent reports, with a view to determining the advisability of enlarging the turning basin at the west end of the harbor;" and

Whereas in compliance with the above authority the Honolulu area engineer of the San Francisco district, Corps of Engineers, United States Army, has scheduled a public hearing to be held at Wailuku, county of Maui, Territory of Hawaii, April 24, 1956, at 10 a. m., on Kahului Harbor for enlargement of the turning basin: Now, therefore, be it

Resolved by the Maui Chamber of Commerce, That it does hereby respectfully request and urge the Congress of the United States to conduct a further study of the Kahului Harbor pertaining to the possibility of dredging the harbor and enlarging the turning basin of the harbor, and to recommend appropriation of sufficient funds by the Congress of the United States in order to undertake and complete the said projects; and be it further

Resolved, That a certified copy hereof be transmitted to the Honorable James F. Murray, chairman, Senate Committee on Interior and Insular Affairs; the Honorable Claim Engle, chairman, House Committee on Interior and Insular Affairs; the Honorable Douglas McKay, Secretary of Interior; the Honorable Elizabeth Farrington, Delegate to Congress from Hawaii; His Excellency Samuel Wilder King, Governor of the Territory of Hawaii; the Honorable Ben Rush, manager and chief engineer, Board of Harbor Commissioners, Territory of Hawaii; the Honorable Ben Nutter, superintendent of public works, Territory of Hawaii; and Chief of Engineers, Corps of Engineers, United States Army, Washington, D. C.

CERTIFICATE

We, the undersigned, being the president and executive secretary, respectively of the Maui Chamber of Commerce, do hereby certify that the foregoing resolution was offered to and duly adopted by the board of directors of the said Maui Chamber of Commerce, at a regular meeting duly called and held at Wailuku, county of Maui, T. H., on the 9th day of April 1956, at which meeting a quorum was present.

Dated at Wailuku, Maui, T. H., this 9th day of April 1956.

WILLIAM NEILSON, *President.*
FUMIE SHIMAZU, *Executive Secretary.*

THE DEVELOPMENT OF KAHULUI HARBOR

1904: At the expense of Kahului Railroad Co., $335,000 was spent in dredging an 11½-acre basin with maximum width of 600 feet, construction of an 1,800-foot east breakwater, and installation of moorings and buoys.

1910: The harbor and breakwaters were deeded to the Federal Government. Congress appropriated $150,000 to strengthen 350 feet of the breakwater and extend it by 500 feet to about 2,300 feet.

At this time the turning basin was increased by dredging to a maximum width of 900 feet. This was completed in 1913.

In the period 1907–10 the Steamship *Lancing* was the largest vessel serving the port. Her length was 356 feet and gross tonnage 2,785.

Kahului Railroad Co., constructed Claudine wharf. Under the Territorial license it was agreed that the wharf would be turned over to the government at a later date.

1917: Congress authorized construction of a 1,950-foot west breakwater which was completed in 1919.

1919: The government increased the maximum width of the turning basin to 1,100 feet with minimum depth of 35 feet to insure safe operation of the larger vessels visiting Kahului. There were several of these with length of 425 feet and 6,000 gross tons.

1924: The Territorial government purchased Claudine wharf from Kahului Railroad Co., as per the agreement of 1910. The Territory completed construction of pier 1.

1928: Claudine wharf was removed and the Territorial government completed construction of pier 2.

1929–30: The Territorial government completed extension of pier 1 to allow additional space for storage of bagged sugar and canned pineapple.

The east and west breakwaters were in process of being extended under government contract ($858,000) when high seas damaged them. This contract was canceled and a new contract for $567,000 was awarded for reconstruction and extension of both breakwaters.

1931: The turning basin was enlarged by 400 feet to a maximum width of 1,450 feet with minimum depth of 35 feet.

1947: Seaward ends of both breakwaters were damaged by heavy seas. Repair work was completed in 1948 at a cost of about $500,000.

1952: The breakwaters were again damaged by heavy seas and were reconstructed under government contract costing $80,000.

1954: The ends of the east and west breakwaters at channel entrance were damaged by high seas; 150 feet of the west breakwater and 350 feet of the east breakwater were demolished. A government contract for $1,177,000 has just been awarded for reconstruction and repair of the breakwaters.

1955: The Territorial government completed extension of pier 1 to permit simultaneous berthing of 2 C–3-type freighters at cost of $343,299.64.

CONCLUSION

In 1931 the turning basin was increased to its present 1,450-foot maximum to accommodate vessels 425 feet in length.

In that year, 426,645 tons of cargo, inward and outward, were handled at Kahului. In 1955, the total was 701,912 tons. The steady increase in pineapple and sugar production on Maui in the intervening years, with resultant increased imports and exports related to services and supplies, contributed to the necessity for larger ships. Since 1929, there has been no further increase in the turning basin, although C–2 and C–3 cargo vessels and tankers which

visit Kahului range from 500 to 563 feet in length. The C–2, C–3, and Victory ships started service in 1945 and 1946, the large tankers in 1949.

In other words, the size of the harbor has lagged behind the increased size of vessels up to this time and will present a further problem with even larger ships of the future. Carriers are presently conducting research and studies concerning larger bottoms for bulk cargoes, such as sugar and fertilizer.

1956 REPAIRS TO KAHULUI BREAKWATER

Plans for the repair of the Kahului Harbor breakwaters, as drawn up by the United States Corps of Engineers, incorporated for the first time on a commercial basis the use of the French-developed tetrapods.

The east breakwater is reconstructed with a stone-and-concrete core, a distance of 55 feet.

The west breakwater is reconstructed in the same manner, a distance of 166 feet.

A trough was developed immediately outside of these rock cores, extending in a semicircle around the point of the breakwater, which was to be filled with two layers of tetrapods.

Tetrapods were 4-legged objects cast in solid concrete, weighing approximately 33 tons each and having an overall dimension of 14 feet.

The bids for the repair of the breakwaters were called for on March 29, 1956. Hawaiian Dredging was awarded the contract for the sum of $1,177,000.

A concrete casting yard was set up on the east side of pier 2, and construction of the tetrapods started in May of 1956.

Removal of stone from the channel, reconstruction of the breakwater, and placing of tetrapods continued through 1956 and into 1957.

Repairs to the breakwaters were completed in January 1957.

Yours very truly,

R. M. GAMMIE.

MATSON NAVIGATION CO.,
Honolulu, T. H., March 29, 1956.

Subject: Kahului Harbor.

Capt. E. ROEBEN,
Port Captain, Matson Navigation Co.,
Honolulu, T. H.

The port of Kahului is the only port on the island of Maui, and considerable tonnage is shipped in and out.

My first acquaintance with the port of Kahului was in 1923, and since that time the size of the vessels calling there have increased. Larger vessels need more room to maneuver, and it is for this reason alone that the turning basin should be enlarged, which could be accomplished by dredging to 35 feet the area starting from the west breakwater and to 100 yards west of buoy No. 2 and to 200 yards south of buoy No. 2, from there eastward to Pier No. 2.

Furthermore, the ends of both breakwaters should be repaired and all obstructions near the ends of the breakwater should be removed.

J. P. BRUNS,
Master, Steamship "Hawaiian Trader."

MATSON NAVIGATION CO. AND SUBSIDIARY COMPANIES

To: Capt. E. Roeben, Honolulu.
From: Capt. G. Cahling, master, *Hawaiian Educator.*
Date: February 29, 1956.
Subject: Kahului Harbor improvements.

Due to the increased size of vessels and the usual windy weather experienced in Kahului Harbor, I believe that the minimum requirements for this harbor should be as follows:

Enlarge the turning basin an area extending approximately 450 feet west to parallel the entrance range and approximately 450 to 500 feet south of the existing harbor basin.

I have been operating into the harbor of Kahului since 1925, and have piloted my own vessels into and out of this harbor since 1942. Since in command of a C–3 type vessel, I have often experienced considerable difficulties and near accidents in this harbor due to light drafts of my vessel and high winds being further aggravated by the confined limits of the present harbor basin.

I consider the above recommendations a bare minimum for the safe handling of a C–3 type vessel in this harbor.

G. CAHLING,
Master, "Hawaiian Educator."

MATSON NAVIGATION CO.,
VOYAGE 39, "STEAM SHIP HAWAIIAN RETAILER",
Honolulu, T. H., April 9, 1956.

To: Capt. Ernst Roeben, Port Captain.
From: W. C. Canty, Master.
Subject: Kahului, Maui, harbor improvement.

Due to the steady increase in the size of vessels and cargoes that have been moving in and out of the harbor of Kahului since World War II, it is becoming increasingly apparent that the harbor facilities should be improved in order to provide adequate accommodation for such vessels and cargoes.

In regards to such improvements, I believe that top priority should be given to widening and lengthening the area of navigable water in the harbor.

During my 25 years of service with Matson I have been in and out of Kahului Harbor on innumerable occasions, on many of which I did my own piloting.

The limited narrow turning basin in the harbor has always been rather hazardous in view of the prevailing fresh trade winds which tend to set the vessel on the lee shore; and the increase in the size of the vessels calling there has increased the danger of such vessels grounding on that lee shore.

If the width of the harbor were extended 400 to 450 feet to the westward of the entrance range, and if the harbor's length were extended 500 feet to the southward of No. 2 Harbor Buoy, the harbor would provide adequate maneuvering room for C–3's and similar vessels in approaching and leaving the existing berths.

Respectfully,

W. C. CANTY, *Master.*

MATSON NAVIGATION CO. AND SUBSIDIARY COMPANIES

To: Captain Ernst Roeben, Honolulu.
From: Captain L. David, steamship *Hawaiian Lumberman.*
Date: March 15, 1956.
Subject: Kahului Harbor improvement.

As you know, I have been sailing on various type vessels as licensed deck officer and master ever since 1937 and have called into and out of Kahului Harbor regularly. In view of the larger type vessels in operation today, not to mention the strong north and northeasterly breezes at this port, it is my opinion that the minimum requirement for the improvement of Kahului Harbor is as follows:

(a) Enlarge the turning basin approximately 400 to 450 feet west.

(b) Approximately 500 feet south of the existing harbor lines.

The approach to the harbor entrance is especially dangerous in view of the limited turning and maneuvering area between the breakwater and the basin in general. A larger turning and maneuvering basin would reduce the hazard and increase the safety of this port.

It is hoped that improvement of this harbor, by enlarging, is not too far in the distance, as vessels of today are much larger than ones in use when the harbor of Kahului was originally dredged.

LLOYD DAVID,
Master, Steamship "Hawaiian Lumberman."

MATSON NAVIGATION CO.
San Francisco 5, Calif., March 29, 1956.

Subject: Additional dredging required at Kahului.

Capt. ERNST ROEBEN,
Port Captain, Matson Navigation Co., Honolulu, T. H.

DEAR CAPTAIN ROEBEN: Referring to recent dredging operations at Hawaiian Island Port, I wish to advise you as follows:

In view of the increased number and greater tonnage of vessels calling at the port of Kahului in recent years it appears that additional dredging should be done at Kahului. I would like to recommend that further dredging be done so as to increase the Kahului Harbor dredged area approximately 450 feet to the west of the range and approximately 500 feet to the south of the present dredged harbor area. This would provide a considerable advantage when entering and leaving the port of Kahului.

During the past 30 years, to my knowledge, many vessels have had difficulty negotiating the turn while leaving Kahului during strong northerly winds both in a deeply loaded condition and when in light trim. And, also to my knowledge, a number of vessels have experienced difficulty in making the turn inside the harbor when entering during strong winds.

I have been master of various Matson vessels since June 6, 1928, and even prior to this date while serving as a deck officer I observed some vessels having difficulty making the turn both leaving and entering Kahului Harbor. In some of these cases it was necessary for the masters to use the anchor while making the turn and they were fearful of getting the stern of the vessel aground before the turn could be negotiated owing to strong northerly winds blowing at the time.

In conclusion, it is my opinion that the navigation hazard referred to would be practically eliminated if the additional dredging as recommended were done.

Yours very truly,

J. E. DOLLARD,
Master, Steamship "Hawaiian Packer."

MATSON NAVIGATION CO.,
Kahului, Maui.

To: Capt. E. Roeben, Honolulu.
From: Capt. E. H. Dovey, steamship *Hawaiian Citizen.*
Date: February 28, 1956.
Subject: Improvements to Kahului Harbor.

In regard to our recent discussion of the possibility of improving the harbor at Kahului, I would like to recommend the following:

(1) The harbor to be widened for 400 feet to the westward of No. 2 buoy in a line parallel to the entrance range.

(2) The harbor to be dredged to the southward of No. 2 buoy, approximately 500 feet in a line parallel to a line intersecting No. 2 and No. 4 buoy.

(3) The above area should be dredged to a controlling depth of not less than 35 feet.

The reasons for the above recommendations are: The present harbor does not provide sufficient maneuvering area for safety under all conditions.

Frequently a vessel approaching the entrance to the range finds it necessary to increase speed to counteract the strong set to the westward caused by wind and sea. Once inside the shelter of the breakwater this speed creates a very unfavorable condition; it is necessary to turn the vessel sharply to the east and the present safe area for maneuvering does not allow sufficient room for complete safety.

I frequently find it difficult when leaving pier 1, and even more so at pier 2, to turn the vessel. Strong trades cause the vessel to set to the south very rapidly, and the harbor at present does not allow much room for maneuvering.

Ships have increased considerably in size in the last few years, and it seems more than likely that the ship of the future will be even larger.

Enlarging and deepening Kahului Harbor will add greatly to the safe navigation of vessels calling there and to the continued growth of this port.

EDWARD H. DOVEY,
Master, Steamship "Hawaiian Citizen."

MATSON CONSTRUCTION CO.,
San Francisco, Calif., March 31, 1956.

Subject: Additional dredging required at Kahului.

Capt. ERNST ROEBEN,
Port Captain, Matson Navigation Co.,
Honolulu, T. H.

DEAR CAPTAIN ROEBEN: Due to the increased number and greater tonnage of vessels calling at the port of Kahului, Maui, I would like to recommend that further dredging be done to the harbor. An increased dredged area of approximately 450 feet to the west of the range and 500 feet to the south of the existing dredged harbor area would be a great improvement.

I have served on Matson vessels as third mate, second mate, and chief mate since 1938 and during such time have been in Kakului Harbor many times. I have observed that sometimes vessels have difficuty in making the turn both when entering or leaving the harbor. This was especially so when a strong northerly wind was prevailing, requiring the use of the anchor in some cases to prevent grounding the stern.

Sincerely,

W. A. FOWLER,
Chief Mate, Steamship "Hawaiian Packer."

MATSON NAVIGATION CO.,
Kahului, Maui.

To: Capt. E. Roeben, Honolulu.
From: Capt. J. P. Gately, steamship *Hawaiian Citizen.*
Date: February 20, 1956.
Subject: Improvements to Kahului Harbor.

In regard to our recent discussion of the possibility of improving the harbor of Kahului.

I would like to concur with your recommendations as follows:

(1) The harbor be widened for 400 feet to the westward of No. 2 buoy in a line parallel to the entrance range.

(2) The harbor be dredged to the southward of No. 2 buoy approximately 500 feet in a line parallel to No. 2 buoy as far south as No. 4 buoy.

These recommendations are based on the following: The present harbor does not provide sufficient maneuvering area for safety under all conditions. Frequently a vessel approaching the entrance on the range finds it necessary to increase speed to counteract the strong set to the westward caused by wind and sea. Once inside the shelter of the breakwater this speed creates a very unfavorable condition; it is necessary to turn the vessel sharply to the east and the present area for maneuvering does not allow sufficient room for complete safety.

The present condition makes maneuvering difficult and sometimes dangerous when leaving pier 1 and pier 2, especially when strong trades are blowing. When the vessel is backed from the dock swinging room is considerably restricted. As you will recall the *Hawaiian Wholesaler* on which I was chief officer at the time suffered extensive damage while leaving the dock due to restricted turning space.

The increased size of present day vessels would make the above improvement seem highly desirable, and it is felt that the enlarging and deepening of Kahului Harbor would contribute greatly to the safe maneuvering of vessels in the port.

J. P. GATELY,
Master, Steamship "Hawaiian Citizen."

MATSON NAVIGATION CO.,
"STEAMSHIP "HAWAIIAN TRADER"
April 3, 1956.

E. ROEBEN,
Port Captain, Matson Navigation Co.,
Honolulu, T. H.

DEAR CAPTAIN: It is my opinion that action should be taken to further the limits of Kahului Harbor. I have been entering and leaving Kahului for 15 years and I can assure you that I'm very thankful at times that the responsibility of maneuvering does not rest on my shoulders.

Kahului Harbor in its present dredged area represents a direct fallacy to the age old sea adage "Never place yourself on a lee shore." This is what happens when entering or leaving; the strong trade winds funnel into the harbor and blow directly broadside to the ship when it is turning. Vessels entering are always in a light condition and this only adds to the danger of being blown on that "lee shore."

I highly recommend that extra room be provided to south and west of the present limits of the dredged harbor. This would not only provide maneuvering and turning room but anchoring and swinging room in emergencies.

Respectfully,

P. W. HEARD, *Chief Officer.*

MATSON NAVIGATION CO.,
STEAMSHIP "HAWAIIAN PILOT,"
Honolulu, T. H., February 28, 1956.

Kahului Harbor improvements.

Capt. E. K. H. ROEBEN,
Port Captain, Honolulu, T. H.

DEAR CAPTAIN ROEBEN: Owing to the increased size of vessels, and the inclement weather experienced in the Hawaiian Islands the last few years, I believe that the minimum requirements for the Kahului Harbor should be as follows:

Dredging to extend the present harbor limits to 35 feet depth. An area extending 150 yards west and parallel the entrance range, and to extend 150 yards south of present south dredged limits. Also, along the east breakwater from the entrance to the south-jog; the rocks at entrance should be removed to allow the elimination of the can buoy 1–A, and dredged to within 25 yards to 35 feet of the breakwater.

I have been entering this harbor since 1927 and have piloted my own vessel into and out of this harbor since 1937. After receiving my command of C–3 vessels in 1946, I have often experienced considerable difficulties and have had many near accidents due to light bow, high winds, and confined limits of the present harbor. I consider the above recommendations to be the bare minimum for safe handling of the average sized vessels now calling at this harbor.

Yours very truly,

H. W. HEUER, *Master.*

MATSON NAVIGATION CO.,
San Francisco, Calif., March 3, 1956.

To: Capt. E. Roeben, Honolulu.
From: J. E. Hihn, chief officer, steamship *Hawaiian Educator.*
Subject: Kahului Harbor improvements.

As chief officer and relief master of the steamship *Hawaiian Educator* and other C–3 type vessels, I have visited the port of Kahului at regular intervals for the past 16 years. I have held a pilots endorsement for Kahului Harbor since 1942. In view of past experience it is my opinion that certain basic improvements are necessary.

It is suggested that the turning basin be enlarged to the west some 400 to 500 feet and south some 450 to 500 feet so as to provide room for safe maneuverability on those days that the port is buffeted by strong winds.

Within the past few years I have seen vessels forced to use two anchors, with long scopes of chain, while docking. I have been delays as long as 40 hours while waiting for winds to subside so that safe departure could be made. Additional turning area would increase the safety of this port and reduce delays.

J. E. HIHN,
Chief Officer, Steamship "Hawaiian Educator."

MATSON NAVIGATION CO.,
San Francisco 5, Calif.

To: Capt. E. Roeben, port captain, Matson Navigation Co., Honolulu.
From: Capt. W. J. Lewin, master, steamship *Hawaiian Wholesaler*
Date: February 27, 1956.
Subject: Ship handling conditions, Kahului Harbor, Maui, T. H.

In compliance with your request as to present ship handling difficulties prevailing in Kahului Harbor, Maui, T. H., I would like to make the following suggestion predicated on the size of the harbor and prevailing wind conditions.

The prevailing wind in northeast, varying in velocity from force 3 to 5 on the Beaufort scale. The approaching course on the range and through the entrance of only about 125 yards is 177° T. This puts the wind on the port quarter and gives the vessel considerable set toward the starboard entrance buoy No. 2A and further, considering there is only about two C–3 ship lengths in which to turn after leaving the breakwater, there can be only one successful approach made.

Leaving the harbor at night is always a difficult problem—water distances, as you know, are deceptive. The usual method is to back the vessel to a position to the westward of pier 2 and then have the tug finish pushing the bow around. After this you slowly approach the entrance.

Approximately one ship's length to the north of buoy No. 2 there is shallow water and to make matters worse the wind sets you toward this shoal. Having safely passed this spot you may still have to face a heavy sea in the narrow entrance and as was previously brought out, there is no second chance here.

To improve this condition I would suggest the harbor be widened by at least 375 feet to the westward of buoy No. 2 and not less than 450 feet south of buoy No. 4, with the intervening sections dredged to harbor depth.

I feel this improvement is an immediate necessity and long overdue, considering the length of C–3 vessels.

Yours very truly,

W. J. LEWIN,
Master, Steamship "Hawaiian Wholesaler."

MATSON NAVIGATION CO.,
STEAMSHIP "HAWAIIAN PLANTER"
March 20, 1956.

To: Capt. E. Roeben, port captain.
From: W. R. Long, chief mate.
Subject: Improvements to Kahului Harbor.

DEAR SIR: In regards to the improvements to Kahului Harbor as suggested by Captain Wichman and Captain Troupe, I would like to concur with the opinions of these veteran masters.

After serving in both an unlicensed and licensed capacity on Matson vessels for the past 23 years and having been on the bridge many times while serving as chief officer, I can readily see that the extension to the turning area and repairs to the breakwater are of great necessity.

The maneuvering of C–3 type vessels in this harbor under present conditions, both while entering and leaving is no doubt quite difficult and with the possibility of even larger vessels in the near future, improvements become an even greater necessity.

Respectfully,

W. R. LONG.

INTEROFFICE MEMO

MATSON NAVIGATION CO. AND SUBSIDIARY COMPANIES

Date: March 12, 1956.
To: Ernst Roeben, port captain.
From: C. R. MacKenzie, chief officer, *Hawaiian Farmer.*
Subject: Kahului Harbor improvements.

As chief officer and relief master of the *Hawaiian Farmer* and other C–3-type vessels, I have visited the port of Kahului at regular intervals for many years. In view of my past experience, it is my opinion that certain basic improvements are necessary and suggest that the following recommendations be carried out.

1. Repair damage to breakwater and restore breakwater lights.
2. Dredge to a depth of 40 feet, a larger and adequate turning basin.

(*a*) The basin should be extended at least 400 feet west from the end of the west breakwater.

(*b*) At least 500 feet south from the same position.

The above recommendations are based on the fact that a vessel encounters very difficult and dangerous conditions when entering the harbor on account

of the limited maneuvering area, particularly during the winter months with strong northerly and northeasterly winds blowing. Additional turning area would reduce the hazards and increase the safety of this port.

C. R. MACKENZIE,
Chief Officer, Steamship "Hawaiian Farmer."

MATSON NAVIGATION CO.,
San Francisco, Calif., April 15, 1956.

Re enlargement Kahului Harbor.

Capt. ERNST ROEBEN,
Port Captain, Matson Navigation Co.,
Honolulu, T. H.

DEAR CAPTAIN ROEBEN: It has been recently brought to my attention that plans are being formulated to enlarge Kahului Harbor.

This plan of enlargement of a distance 400 feet south and west of the present statutory harbor line, is long overdue and has my full approval. It is a good beginning.

Kahului Harbor as it now stands, was prior to World War II considered adequate. Vessels built during and subsequent to 1940 in the overall picture have increased considerably in size and value. With the limited maneuvering area nonextant, particularly at times of high winds, which are frequent, it is extremely difficult to handle these vessels. It is also at times dangerous to harbor facilities and the vessels.

I am sure that when the contemplated enlargement is carried out, steamship operating and harbor officials, terminal operators, vessel masters and officers, harbor pilots, and others concerned with the maritime profession will feel much better and safer.

Yours very truly,

J. A. MCKENZIE,
Master, Steamship "Hawaiian Logger."

MATSON NAVIGATION COMPANY AND SUBSIDIARY COMPANIES

To: Capt. Ernst Roeben, Honolulu.
From: Capt. W. R. Meyer, Steamship *Hawaiian Rancher.*
Date: March 14, 1956.
Subject: Kahului Harbor Improvement.

In compliance with your request, I offer the following statement with respect to conditions existing in Kahului Harbor.

I have been operating into and out of Kahului Harbor since the year 1917 in licensed deck officer capacities, and as master since 1924, on various types and size vessels. After the last war, I have been in command of C–3 vessels regularly calling into the port of Kahului. It is my opinion that the minimum requirement for the improvement of this harbor should be as follows:

1. Enlarge the turning basin for an area approximately 450 feet west to parallel the entrance range and approximately 450 to 500 feet south of the existing habor basin.

I have often experienced considerable difficulties, not to mention near accidents in this harbor due to light drafts of my vessel, usually moderate to strong breezes, and further aggravated by the confined limits of the present Harbor basin.

I consider the above recommendation for improvement a bare minimum for the safe handling of C–3 type vessels or any other type. This improvement is a must and in my opinion long overdue.

Capt. W. R. MEYER,
Master, Steamship "Hawaiian Rancher."

MATSON NAVIGATION CO.,
San Francisco, Calif.

To: Ernst Roeben, Port Captain, Honolulu.
From: G. R. Miller, Master, Steamship *Hawaiian Rancher.*
Date: April 9, 1956.
Subject: Kahului Harbor Improvement.

In answer to your request as to my opinion on existing conditions in the harbor of Kahului, and any recommendations for improving same, I submit the following: The turning basin as it exists today is inadequate in size for present-day

vessels, and will be probably more so for vessels using this port in the future. Generally the prevailing winds are from moderate to strong, and difficulties are often experienced when vessels set dangerously close to the lee shores while making the turn to head out of the breakwater.

I strongly recommend that the turning basin be enlarged by approximately 450 feet to the westward, and the same distance to the southward of the existing basin.

Respectfully,

G. R. MILLER,
Master, Steamship "Hawaiian Rancher."

MATSON NAVIGATION CO.,
San Francisco, Calif.

To: Capt. Ernst Roeben, Port Captain, Honolulu.
From: C. A. Olver, Chief Officer, Steamship *Hawaiian Rancher.*
Date: March 19, 1956.
Subject: Kahului Harbor Improvement.

In regards to your request regarding existing conditions and my recommendations for improvement at Kahului Harbor, I offer the following:

I have been a licensed deck officer, including master, operating in and out of Kahului Harbor since 1939 on Matson vessels of various types and sizes. I also hold a first-class pilot's license for the harbor of Kahului.

Owing to the confined limits of the present harbor basin, the prevailing moderate to strong breezes and with the majority of the vessels calling at Kahului are with light drafts, I have seen masters experience considerable difficulties while maneuvering within the harbor, which at times have nearly resulted in accidents. To my knowledge there have been at least two accidents within Kahului Harbor in recent times by masters of longtime experience, which were primarily contributed by the limited confines of this harbor.

In my opinion the minimum requirement for the improvement of this harbor should be to enlarge the turning basin for an area of approximately 450 feet west to parallel the entrance range and approximately 500 feet south of the existing harbor basin.

Furthermore the above recommendations for the improvement are a bare minimum for the safe handling of the present-day vessels, such as C–3 type freighters, T–2 tankers and probably the newer Mariner type. This improvement is long overdue and in my opinion, a must.

Respectfully,

C. A. OLVER,
Chief officer, Steamship "Hawaiian Rancher."

MATSON NAVIGATION CO.,
San Francisco, Calif., March 7, 1956.

Re Kahului Harbor

Capt. E. ROEBEN,
Port Captain, Matson Navigation Co.,
Honolulu, T. H.

DEAR CAPTAIN ROEBEN: The port of Kahului ranks third after Honolulu and Hilo in tonnage and marine traffic and is the sole harbor on the island of Maui for overseas shipping. In view of the importance of this harbor serious consideration should be given to enlarge and maintain it to meet present-day conditions and to provide a reasonably safe area for maneuvering the larger vessels of today.

Since my first call at Kahului 25 years ago, nothing has been done to keep this harbor abreast of the times and in fact, today it is even in a worse condition due to unrepaired damaged sections of the breakwater and obstructions at the habor entrance.

Having been in command of various vessels of our company since 1940 I have made numerous trips in and out of the harbor under varied weather conditions, consequently I feel qualified to reassert my evaluation of Kahului Harbor as the most hazardous and neglected of harbors in Hawaii. Specifically, it might be pointed out that the required project depth of 35 feet is not maintained and since the east and west sections of the breakwater were destroyed, nothing has

been done to repair the damaged sections at the harbor entrance except to place buoys marking the obstructions. The only accurate aid in approaching and entering the harbor from sea is the range.

The present area for turning and maneuvering vessels should be increased and it is recommended that the harbor be dredged from a line bearing 180° 650 yards from the end of the west breakwater, thence east from that point to a line approximately 180° from the end of pier No. 2. Relocating buoy No. 2 about 200 yards to the southwest from its present position.

The obstruction of the damaged breakwater presently marked by black can buoy No. 1A should be removed for this impairs the entrance.

The above is submitted with the recommendation that action be taken to institute the long overdue improvements and maintenance for this harbor.

Very truly yours,

MALCOLM R. PETERS,
Master, Steamship "Hawaiian Builder."

MATSON NAVIGATION CO.,
San Francisco, Calif., March 9, 1956.

To: Capt. E. Roeben, port captain, Matson Navigation Co., Honolulu, T. H.
From: M. C. Stone, master, steamship *Hawaiian Craftsman.*
Subject: Kahului Harbor dredging project.

With reference to your request for recommendations regarding extent of harbor improvement, the following is presented.

(1) Dredge to harbor line south end.

Comment: This added area will permit vessels greater room to line up on range to proceed to sea through breakwater.

(2) Extend proposed increase of depth west of proposed (U. S. Army engineers) area, at west end of breakwater inside harbor, substantially as suggested by Kahului Railroad office.

Comment: Vessels entering from sea are often in light condition. Prevailing wind is broadside and tends to prevent vessels head from coming up into wind. If vessel drops anchor, stern swings over present shoal area. Speed is reduced at entrance and again wind and sea tend to set vessel over. The same conditions apply leaving.

M. C. STONE,
Master, Steamship "Hawaiian Craftsman."

MATSON NAVIGATION CO.,
San Francisco, Calif., April 15, 1956.

Re Kahului Harbor.

Capt. ERNST ROEBEN,
Port Captain, Matson Navigation Co.,
Honolulu, T. H.

DEAR CAPTAIN ROEBEN: It is my understanding that plans are now in progress to enlarge the harbor at Kahului, Maui, T. H. I believe that at present, the harbor is not quite large enough due to the increased size of the newer ships.

When leaving the dock at Kahului, it is necessary to swing the vessel around, and the present size of the harbor often makes this operation hazardous due to the limited maneuvering area, especially when a strong wind comes up.

I am sure this enlargement will prove of great value toward better and safer maneuvering of the vessels in this harbor.

Very truly yours,

ALFRED THOMSEN,
Chief Officer, Steamship "Hawaiian Logger."

MATSON NAVIGATION CO.,
San Francisco, Calif.

To: Capt. E. Roeben, port captain, Honolulu.
From: Fred N. Troupe, master, steamship *Hawaiian Planter.*
Date: March 20, 1956.
Subject: Kahului Harbor.

The writer has been sailing in and out of Kahului Harbor, as chief officer and master, since 1928. The period as chief officer was from 1928 to 1936. I obtained pilot's endorsement in 1934. I was appointed master in 1936, and have been

piloting my vessel in and out of Kahului from 1936 to the present date. It will average a trip in and out of Kahului every 35 days.

The first ships calling there regularly were the "Broncos"; 310 feet overall length: 1,500 horsepower; a draft of 22 feet. Then the "8800" type, with an overall length of 425 feet and a draft of 24 feet, were utilized, as they carried a larger load of cargo. Of necessity, during World War II, the C–2- and C–3-type vessels were sent into the harbor. This increased the overall length to 500 feet; 8,500 horsepower and a mean draft of 30 feet, loaded. The ships have increased in length, horsepower, and draft, but the harbor has not been enlarged proportionately. It is still the same as when first developed for the 310-foot "Broncos."

The average width of the harbor is 1,050 feet, twice the length of the ship. The length of the harbor from breakwater is 2,250 feet. A ratio of 4½ to 1. In maneuvering a C–3, speed must be maintained to obtain rudder power, the vessel turned in 500 feet, and stopped in 1,700 feet, or 3 times its length, against strong cross winds, up to 35 miles per hour, and the vessel docked, or undocked without damage, while trying to maintain a schedule. About 50 percent of the time, these maneuvers are made in the dark and rain squalls, where an error in judgment would mean an accident costing many thousands of dollars and could mean the closing of the harbor for some time, or serious damage to the harbor installations.

The economy of the islands demands a larger and more adequate turning basin dredged to 40 feet, enlarged by at least 400 feet west of buoys Nos. 2A and 2, and at least 500 feet south of buoys Nos. 2 and 4.

The writer has been piloting ships in and out of Kahului for 30 years and has never had a serious accident, but the many "near misses" are something to think about.

FRED N. TROUPE,
Master, Steamship "Hawaiian Planter."

MATSON NAVIGATION CO. AND SUBSIDIARY COMPANIES

To: Ernst Roeben, port captain.
From: C. H. Wichman, steamship *Hawaiian Farmer.*
Date: March 12, 1956.
Subject: Kahului Harbor.

In reference to the improvement of Kahului Harbor, I wish to state that I, as a shipmaster, handled and piloted my own vessel in and out of this port for many years. During this period, particularly in the winter months, with strong northerly and northeasterly winds blowing, entering this harbor with a light ship is a very difficult and dangerous maneuver on account of the very limited area a vessel has to turn in. This is also true in leaving the harbor with either a light- or heavy-laden vessel.

This harbor served its purpose in the prewar years, for vessels calling there were much smaller than the vessels in use today. Most vessels calling there today are larger, being the C–3 type, and drawing at times as much as 32 feet of water.

Therefore, I suggest the following improvements for Kahului Harbor:

1. Repair damage to breakwater and restore breakwater lights.

2. A larger and adequate turning basin should be dredged to a depth of 40 feet. This basin should be extended at least 400 feet west from the end of the west breakwater and at least 500 feet south from the same position.

No doubt other shipmasters and pilots calling Kahului will concur with the above recommendations and will agree that enlarging of the harbor basin is an immediate must.

C. H. WICHMAN,
Master, "Hawaiian Farmer."

MATSON NAVIGATION CO.,
STEAMSHIP "HAWAIIAN BUILDER,"
San Francisco, Calif., March 9, 1956.

Capt. ERNST ROEBEN,
District Port Captain,
Matson Navigation Co., Honolulu, T. H.

DEAR CAPTAIN ROEBEN: This is to put me on record in connection with our recent discussion regarding the condition of Kahului Harbor on Maui.

I have been calling at Kahului for the past 20 years and am familiar with conditions pertaining to the harbor during that time. Storms in recent years have destroyed 150 feet of the seaward end of the east breakwater, the rubble being washed into the harbor, where it has since remained at the harbor mouth as a menace to shipping. The same and subsequent storms destroyed about 350 feet of the seaward end of the west breakwater, which has not been repaired. The two lights marking the harbor entrance, each in a concrete tower on the seaward end of the breakwaters, were likewise destroyed. Lighted buoys Nos. 1 and 2A, now marking the harbor entrance, are subject to the same shortcomings as all floating aids to navigation; namely, they drift out of position and cannot be relied relied on. These buoys have dragged and been replaced since they were established. The one reliable aid among the harbor navigation lights is the entrance range.

Obviously, both breakwaters should be repaired without further delay, and the light on the outer end of each reestablished. The rubble washed into the harbor, and buoy No. 1A marking it, should be removed as should also buoys Nos. 1 and 2A.

Recent surveys show that the harbor has shoaled to a depth of 30.5 feet near the middle. Loaded vessels frequently draw more water than this. The harbor should be restored to the project depth of 35 feet. Ships have increased considerably in size since Kahului Harbor was built, and the navigable area of the harbor basin should be enlarged to afford more maneuvering room. It is suggested that the 35-foot depth be carried westward on a line bearing 270° from the charted position of buoy No. 4 for a distance of 500 yards; thence on a bearing of 353° a distance of 500 yards to intersection with present 35-foot depth curve. Buoy No. 2 should be relocated approximately 240 yards, 215° from its charted position to mark the southwesterly corner of the enlarged harbor basin. This would afford vessels about 200 yards of navigable water west of the harbor entrance range and some 150 yards more in a southerly direction than is now available. Stated in terms of ship lengths for the purpose of perspective, the harbor basin is now 2½ ship lengths wide and 5 ship lengths long at its largest points, and this confined area is hazardous for maneuvering in the moderate to strong winds that prevail at this exposed port, especially with a light ship.

In view of the fact that all overseas shipping for the island of Maui must move through this port, its repair and enlargement to handle today's vessels, as outlined above, is a matter of first importance demanding immediate attention.

C. C. WRIGHT, JR.,
Alternate Master, Steamship "Hawaiian Builder."

MATSON NAVIGATION CO.,
San Francisco, Calif.

To: Capt. E. Roeben, port captain, Matson Navigation Co., Honolulu.
From: Capt. B. V. White.
Date: April 19, 1956.
Subject: Ship-handling condition, Kahului Harbor, Maui, T. H.

Complying with your request, I am submitting my ideas on an improvement to Kahului Harbor, having had approximately 20-odd years of piloting in which to handle a vessel, and especially when a strong trade wind is blowing. This makes both entering and leaving a very hazardous procedure and taxes the nerve of the most experienced pilot.

My suggestion in the way of an improvement would be to cut a semitriangular section out of the existing shoal area, the first leg starting at the breakwater and about parallel to the range to a point 500 feet to the west of buoy No. 2 and thence approximately 400 feet off buoy No. 4.

An improvement such as this would give a vessel a little more maneuvering room and, I feel, the addition of more maneuvering room in Kahului Harbor is long overdue.

Yours very truly,

B. V. WHITE,
Master, Steamship "Hawaiian Wholesaler."

ISTHMIAN STEAMSHIP CO.,
New York, N. Y.

Capt. ERNST ROEBEN,
Port Captain, Matson Navigation Co.,
Honolulu, T. H.

DEAR SIR: Inasmuch as suggestions are in order relevant to the dredging operations in Kahului Harbor, Maui, it has been my experience, while serving as master and pilot during the past 27 years, on many occasions entering this harbor to find it very hazardous passing in through the breakwaters to swing the ship around in the narrow limits of the inner harbor for docking at pier No. 1.

With a vessel in light condition, while there are strong northeast winds and rough seas running in through the breakwaters, it is suggested that dredging should allow for at least 200 yards additional area on the south and west sides of the present limits of deep drafts 32 feet, which will greatly facilitate the swinging movement of a C-3 type of vessel.

Trusting that this will meet with your approval, I am,

Very respectfully yours,

B. M. GREEN, *Master.*

ISTHMIAN STEAMSHIP CO.,
New York, N. Y.

From steamship *Steel Rover*, at sea, en route from Honolulu to Balboa.
To: Capt. E. Roeben, port captain, Matson Navigation Co., Honolulu, T. H.
Date: April 12, 1956
Subject: Recommendations for improvement of Kahului Harbor, Maui, in handling of the C-3 type ships.

DEAR CAPTAIN ROEBEN: The approach to this harbor is on a ranged course of 177 degrees, true thus, almost always putting the northeasterly trade winds on the port quarter as you approach the breakwater gap entrance which is only 375 feet between lighted buoys 1 and 2A. Oftentimes the wind is blowing from the east-northeast full trade-wind force (5-6 on Beaufort scale) and you are then confronted with a full beam wind influence in maneuvering through the entrance.

There is no second guessing in making this approach and once started must be gone through with. When this vessel called *Kahului* early in the morning of Sunday, February 25, 1956, a strong east-northeasterly wind was blowing and as we came through the breakwater entrance she rolled heavily and was setting rapidly to the westward toward buoy 2A. After clearing the entrance you have very limited room to swing as you are setting to westward attempting to line up for the dock approach.

Sailing from Kahului, especially at night is always a problem, particularly so with usual trade winds blowing. Even the best of judgment many times falls short in their estimates calculated in the dark. In backing out a vessel from the pier you scarcely have three ship lengths to perform this maneuver, and this with the assistance, as a rule, of a small tug. After you are partially turned around and the winds hit the starboard bow you can hardly keep from running afoul of the shoal water immediately north of lighted buoy 2.

As a result of the various difficulties mentioned in the foregoing paragraphs, I highly recommend that the harbor of Kahului, Maui, T. H., be improved as follows:

Reference: United States Coast and Geodetic Survey chart 4123 (Kuhului Harbor and approaches). The Kahului Harbor inset is the direct point of reference.

Just south and a little west from the eastern tip of the west breakwater arm is shown a bight with 5½ fathoms in its westernmost part. From this westernmost tip of the bight draw a straight line to a point 150 yards due west of lighted buoy No. 2. Continue this line to another point 150 yards southwest of this same buoy. Thence to a point 150 yards south of lighted buoy No. 4 and

finally with a line to join the southwest corner of pier 2. All shoal water east of the continuous line connecting the above referred to points should be dredged to conform with the rest of the navigable depths which are presently available within the harbor limits of Kahului.

I have no idea what appropriation can be obtained to undertake this much needed, and years overdue, improvement but it will certainly be a most appreciated accomplishment to every seaman who is faced with handling vessels into and out of Kahului Harbor, and we must not lose sight of the fact that a vessel of the C–3 type must be considered a man-sized job under the normal prevailing conditions in this harbor.

Very truly yours,

J. PARRILLA, *Master.*

P. S. The preceding is submitted on behalf of all Isthmian Lines masters. J. P.

THEO. H. DAVIES & CO., LTD.,
Honolulu, T. H., March 29, 1956.

Mr. L. GILLIN,
Kahului Railroad Co., Kahului, Maui.

DEAR MR. GILLIN: As per your request, we enclose herewith a copy of report by Capt. Thomas J. Potter, master of the steamship *Afoundria*, covering the near-casualty to this vessel during a storm at Kahului, Maui, on March 5–6, 1954.

It is our understanding that you wish to use this report in connection with a public hearing which has been scheduled by the United States engineers on the need for a larger turning basin at Kahului, Maui.

Expenditures to the vessel incurred in connection with this incident are as follows:

Charter hire on plane to carry additional mooring lines	$173.81
Labor to loadlines	7.00
Tug hire—*Eleu* to stand by at Kahului	2,861.88
Three extra coils line	1,943.37
Stevedores at Kahului—securing extra lines, stand by, assisting on dock, etc	2,628.86
Standby time for pilot	35.00
Telephone calls	63.75
Cost of flying pilot Honolulu to Kahului to Honolulu	21.85
Total	7,735.52

In addition to the above expenditures, Waterman Steamship Corp. supplied Matson Navigation Co. with a new 1,100-foot length of 10-inch manila line to replace Matson's standby lines, which were a complete loss as a result of damage sustained while assisting in holding the steamship *Afoundria* alongside the wharf. As this line was furnished Matson through Waterman's San Francisco office, we are not aware of the cost.

We trust Captain Potter's report and the above information will be of use to you in connection with the public hearings.

Very truly yours,

THEO. H. DAVIES & CO., LTD.
A. B. CALDER, *Steamship Department.*

STEAMSHIP "AFOUNDRIA," VOYAGE 65

STATEMENT OF THOMAS J. POTTER, MASTER, STEAMSHIP "AFOUNDRIA," RELATIVE TO BOISTEROUS WEATHER EXPERIENCED AT KAHULUI, MAUI, ON MARCH 5–7, 1954

On the morning of March 5, 1954, the steamship *Afoundria* made arrival about 1½ miles off the breakwater at Kalului Harbor at 6:48 a. m. The tug from which the pilot boards was seen approaching, and the *Afoundria* proceeded on a slow bell to meet the pilot. As the two vessels drew abreast of each other the tug was heard blowing several blasts of the whistle, and the pilot called that entry should not be attempted. By this time the vessel had approached close enough to see heavy surf breaking over the entrance between the breakwaters. It looked doubtful that the vessel could have been turned back into the wind in the short

space to the beach without being blown ashore on the breakwater. The vessel proceeded into the harbor and anchored. The wind was increasing, and it was considered unsafe to try to get alongside of the dock without the aid of a tug. The pilot was unable to turn his tug around and return and proceeded around the lee side of the Island of Maui.

At 4:17 p. m., the tug *Eleu* was made fast and the vessel berthed at pier No. 1. Starboard side to the pier—head out. The wind commenced to increase during the night and shortly after 1 a. m. on the morning of March 6 the vessel started to yaw about and surge heavily at her lines. As the day progressed this condition became worse and two 12-inch hawsers were borrowed from the dock to supplement the vessel's lines which had started to part. At 11 a. m. cargo operations were suspended. The ship's crew and a dock crew were kept busy repairing and running lines. At 12:35 p. m. the tug *Eleu* was called and used to hold the vessel alongside the dock while an attempt was made to even up the strain on the lines. At 1:35 p. m. the tug was dismissed. The port anchor was run out ahead of the vessel and dropped, in order to hold the stem steady against the starboard anchor which had been used in docking and was leading aft. The stream anchor was run out from the port quarter in an effort to steady the stern.

During the late afternoon the heavy undertow in the harbor subsided somewhat as the tide started to ebb. However, as the tide started to flood again about 10 p. m. conditions became worse than before, and all lines started to break. The tug *Eleu* was called and was used to hold the vessel against the dock. During this time the vessel, surging back and forth, parted the 1½ inch mooring wire. The tug was used to hold the vessel in berth for the remainder of the night.

Toward daylight the weather started to moderate. It could be seen that about 250 feet of the breakwater had been washed away allowing the full force of the seas to wash into the harbor. At 9:20 a. m. March 7 the mooring lines were evened up and the tug was dismissed. The dock gang which had been standing by was dismissed.

The equipment listed below was lost and damaged during the above related occurrence:

Seven 70-Fat 8-inch lines which were in use when the vessel arrived broken beyond further use.

One 1½-inch length of 630 feet—mooring wire parted in two places.

Two lengths of 12-inch line borrowed from the dock—parted in numerous places.

One new line, 8-inch, flown over from Honolulu parted in 2 places.

One new line, 8-inch, flown over from Honolulu parted in 1 place.

Six rat guards lost overside.

While vessel was surging at the dock the wood stringpiece was damaged moderately in several places.

Activity of tug "Eleu" assisting steamship "Afoundria" at Kahului, Mar. 5 to 8, 1954

Mar. 5, 1954:	
2:00 p. m.	Tug *Eleu* observed entering breakwater.
4:17 p. m.	Tug *Eleu* fast to assist in docking.
5:35 p. m.	Tug *Eleu* dismissed.
Mar. 6, 1954:	
12:35 p. m.	Tug *Eleu* alongside to hold vessel to berth while strain on lines evened up.
1:35 p. m.	Tug dismissed.
4:45 p. m.	Tug *Eleu* alongside to hold vessel in place while kedge anchor being run.
5:45 p. m.	Tug dismissed.
9:45 p. m.	Tug *Eleu* alongside to hold vessel into dock when all lines started to part.
Mar. 7, 1954: 9:30 a. m.	Tug dismissed.
Mar. 8, 1954: 10:45 a. m.	Tug *Eleu* observed leaving harbor towing barge.

MATSON NAVIGATION CO.,
January 24, 1956.

Kahului Harbor

Col. SIDNEY SHELLEY,
Honolulu Area Engineer,
Corps of Engineers United States Army, Honolulu, T. H.

DEAR COLONEL SHELLEY: For your information and particularly for reference in future discussions concerning harbor maintenance and improvements at Kahului, we are enclosing copies of correspondence relative to the recent difficulties experienced by our *Hawaiian Builder* at that port on January 15–16, 1956.

In Captain Peters' letter to our port captain, dated January 16, he points out the delay as well as the hazards that his vessel was subjected to while maneuvering in the confines of subject harbor. The harbormaster's letter to his superior, Mr. Rush, indicates that "the usual procedures in leaving the dock were observed."

This incident serves to emphasize the urgent need for prompt action in the matter of harbor improvements at Kahului.

Very truly yours,

C. R. JAMES,
Capt. C. R. James,
Regional Marine Manager.

KAHULUI, MAUI, T. H., *January 16, 1956.*

Subject: Damage to Pier 1 Fender System

Mr. B. F. RUSH,
Manager and Chief Engineer,
Board of Harbor Commissioners, Honolulu, T. H.

DEAR SIR: The steamship *Hawaiian Builder*, under command of Capt. M. R. Peters, was scheduled to sail from Kahului for Honolulu at 7 p. m., January 15, 1956. The prevailing wind at time of departure was from the southwest; weather, overcast and squally. The usual procedures in leaving the dock were observed.

The Kahului Railroad Co.'s tug, motorship *William Walsh*, was stationed at the starboard bow to assist in turning the vessel's head toward the harbor entrance. After having cleared the dock, the vessel maneuvering in midharbor, appeared from my point of view as having difficulties in making the required left turn to negotiate the harbor entrance. I observed that the port anchor was being dropped to assist the vessel in swinging toward the left to clear the pier. However, before this action could take effect to counteract the southwest wind pressure, the vessel's bow struck the fender system and penetrating into 12 by 14 timbers at bents 94 and 96. Damages caused by this mishap are to 2 pieces of 4-inch by 12-inch by 24-foot NW rough and 2 pieces 12-inch by 14-inch by 24-foot NW rough timbers.

Due to the weather conditions at Kahului, the master of steamship *Hawaiian Builder* thought it prudent to remain in port until more favorable weather conditions prevailed. The vessel left this morning at 7 a. m. without further incidents.

Respectfully yours,

BOARD OF HARBOR COMMISSIONERS,
ERICH H. STEIN,
Harbor Master and Pilot, Maui.

MATSON NAVIGATION CO.,
San Francisco, Calif.

To: Capt. J. H. Berendsen, port captain, Matson Navigation Co.
From: M. R. Peters, master, Steamship *Hawaiian Builder*.
Date: January 16, 1956.
Subject: Kahului Harbor.

A delay of 12 hours was experienced at Kahului Harbor on January 15–16, 1956, due to adverse weather conditions and the difficulty of handling the vessel because of the exposed and limited area in which to maneuver.

When entering the harbor at 0640 on January 15, 1956, and while approaching pier No. 1, the vessel was set broadside to the dock due to a fresh southerly wind. There appeared no apparent damage to the dock but the vessel's shell plating was indented about 2 inches in an area of 6 by 6 feet at frames 137–138.

On departing from the wharf at completion of discharging and loading operations at 1920 on January 15, the vessel appeared to maneuver satisfactorily when another fresh southerly wind suddenly came up and set the vessel's stem against the stringer on the wharf and while attempting to swing the ship, the wind again set the stem against the stringer. The limited turning area and action of the wind proved any attempt to bring the vessel out of the harbor would have been hazardous; therefore, I decided to bring the vessel alongside the dock and await favorable conditions.

Fortunately, it appears that no serious damage was sustained but I wish to go on record and point out the deficiencies of the harbor of Kahului which I consider hazardous and unless some harbor improvements are made, there is a good possibility of some vessel experiencing either major marine damage or loss.

Since the breakwater was partially destroyed during the tidal wave there has been no replacement to the damaged sections, which are at both the east and west limits of the harbor entrance. As an example, the east breakwater is destroyed for a length of about 150 feet and the west for approximately 350 feet. In addition, there is an obstruction at the outer end of the east section that extends about 160 feet into the harbor from the projected line of the breakwater and presently marked by buoy No. 2A. At present, the channel entrance is marked by buoys Nos. 1 and 2A; however, I have found on occasions that the actual limits of the channel are in doubt due to adverse weather and sea conditions that shift the said markers. The harbor entrance range is the only accurate aid; however, when maneuvering in close water, one is largely dependent on the smaller aids such as buoys, etc.

I do not have the facts or dates at hand to show the last, if any, improvements to the harbor since the years when vessels calling at Kahului were smaller; however, I am certain since the larger vessels of today are making this harbor as a regular port of call nothing has been done to improve or advance the harbor to meet requirements of the larger ships.

For example, the harbor does not meet the projected depth of 35 feet and the turning basin is confined and limited. I would recommend that action be taken to have the harbor dredged and also to increase the area from pier No. 2 to buoy No. 4 and also set back buoy No. 2 to a position 180° from buoy No. 2A. Most urgent and important is to make immediate repairs to the breakwater.

The above is for your information.

M. R. PETERS, *Master.*

Kahului Harbor—Summary,[1] all cargo, fiscal 1951–57, inclusive

	1951	1952	1953	1954	1955	1956	1957
Overseas, incoming	220,087	213,125	218,995	228,398	181,253	207,093	204,991
Overseas, outgoing	383,885	401,901	401,013	378,842	426,253	452,312	456,618
Interisland incoming	52,413	50,636	51,572	52,938	65,060	51,623	54,927
Interisland outgoing	20,569	32,943	28,782	46,091	29,346	35,446	49,947
Total cargo tons by years (short tons)	676,954	698,605	700,362	706,269	701,912	746,474	766,483

[1] Source: Territory of Hawaii Board of Harbor Commissioners, Mar. 28, 1956.

Tonnage and value of cargo moving in and out of Kahului,[1] calendar 1951–56, inclusive

	Inward		Outward		Total	
	Short tons	Value	Short tons	Value	Short tons	Value
1951	275,096	$47,779,415.00	422,876	$54,327,355.56	697,972	$102,106,770.56
1952	256,504	39,115,542.09	395,482	50,450,173.13	651,986	89,565,715.22
1953	290,741	48,235,422.00	425,675	54,280,759.46	716,416	102,516,181.46
1954	247,383	44,208,935.00	468,398	57,716,185.57	715,781	101,925,120.57
1955	268,878	49,279,937.00	461,692	55,978,867.80	730,570	105,258,804.80
1956	249,737	48,855,782.00	510,687	68,767,263.00	760,424	117,623,045.00
Total	1,588,339	277,475,033.09	2,684,810	341,520,604.52	4,273,149	618,995,637.61

[1] Source: Kahului Railroad Co., estimated.

Representative list of the type of ships calling at Kahului Harbor when east breakwater was first built and extended, years 1907–10

Vessel	Tons		Length	Breadth
	Net	Gross		
Enterprise	1,681	2,675	323	35.8
Hilonian	1,819	2,921	340	37.3
Hyades	2,932	3,753	320	47.0
Mahukona	1,534	2,552	253	43.6
Melrose	1,677	2,662	273	43.0
Wm. P. Frye	2,998	3,374	332	45.4
Mary Winkerman	482	522	155	36.0
Lancing	2,546	2,785	356	43.8
Commodore	1,927	2,082	265	42.2

Source: Harbor master's office, Kahului, Maui, T. H.

Pre-World War II type of vessels calling at Kahului

Vessel	Tons		Length		Breadth	
	Net	Gross				
			Ft.	*In.*	*Ft.*	*In.*
SS. Atlanta City	3,450	5,686	424	02	56	02
SS. Steel Navigator	3,471	5,718	424	02	56	02
SS. Steel Ranger	3,450	5,686	424	02	56	02
SS. Steel Age	3,821	6,187	395	08	55	00
SS. Castana	3,105	5,030	390	00	54	02
SS. Diamond Head	3,334	5,444	410	00	54	04
SS. Liberator	5,750	7,720	410	00	56	00
SS. Luberico	4,290	6,956	425	00	57	00
SS. Ensley City	3,801	6,157	395	05	55	00
SS. Mala	2,174	3,545	324	00	46	02
SS. Makua	2,147	3,545	324	00	46	02
SS. Makawell	1,534	2,552	253	04	43	06
SS. Maliko	4,280	6,847	415	00	53	07
SS. Makiki	3,813	6,096	402	00	54	02
SS. Manini	1,997	3,253	324	00	46	02
SS. Montgomery City	3,450	5,686	424	02	56	02
SS. Steel Seafarer	3,471	5,718	424	02	56	02

Source: Harbor master's office, Kahului, Maui, T. H.

Type of vessels calling at Kahului, present time (1956)

	Tons		Length		Breadth	
	Net	Gross				
C–3 vessels:			*Ft.*	*In.*	*Ft.*	*In.*
SS. *Steel Admiral*	4,732	8,071	492	00	69	06
SS. *Steel Navigator*	4,727	8,013	492	00	69	06
SS. *Hawaiian Banker*	4,608	7,920	492	00	69	06
T–2 tankers:						
Bunker Hill	6,295	10,410	523	00	68	02
Marine Arrow	7,533	10,780	520	00	71	00
Standard Oil tankers: *Hillyer Brown*	6,416	10,946	525	00	63	00
C–2 cargo vessels:						
SS. *Fairland*	3,519	6,165	448	00	63	01
SS. *Afoundria*	3,600	6,065	468	00	63	00
SS. *Badger Mariner*	5,367	9,214	563	00	76	00
SS. *Prairie Mariner*	5,367	9,214	563	00	76	00
MS. *California*	3,505	6,948	500	02	64	00
MS. *Canada*	3,788	6,931	500	00	64	00
MS. *Seattle*	3,497	6,909	500	00	64	00
U. S. N. S., victory: *Lt. Raymond Beaudein*	4,560	7,604	455	00	62	01
U. S. N. S., C–2: *Bald Eagle*	3,474	6,178	456	00	63	00
U. S. N. S., C–3: U. S. S. *Calvert A. P. 32*	5,082	9,086	491	00	65	06

Source: Harbor master's office, Kahului, Maui, T. H.

Capital improvements,[1] Kahului, Maui

	Year	Original cost
Pier 1, Kahului, Maui:		
Dredging	1918–27	$210,342.97
Concrete wharf on concrete piles	1924	468,200.74
Shed, steel frame, concrete walls	1924	103,000.00
Wharf extension	1930	298,012.19
Shed extension	1930	81,869.00
Sprinkler system	1935	18,125.00
Asphalt paving rear of pier	1949	11,811.41
Office	1951	3,219.71
Waterline	1951	1,383.11
Asphalt paving	1952	3,281.08
Oil lines	1952	83,717.85
Sprinkler system	1953	1,469.39
Raising pier 1 track and widening door	1954	3,110.72
Aqua ammonia lines	1954	11,802.11
Wharf and shed extension	1956	343,299.64
Total, pier 1, Kahului, Maui		1,642,644.92
Pier 2, Kahului, Maui:		
Dredging	1927	133,620.00
Concrete wharf on concrete pile	1928	484,665.22
Shed, steel frame, 18,634 square feet	1928	60,039.62
Dredging	1949	60,150.77
Office	1951	3,336.17
Sprinkler system	1952	9,307.52
Total, pier 2, Kahului, Maui		751,119.30
Total, Kahului, Maui		2,393,764.22

[1] Funds provided by Territory of Hawaii.

Source: Territory of Hawaii Board of Harbor Commissioners.

Statistical data of Maui business—1954

Retailing	$32,378,367.12
Sugar processing	24,634,225.56
Producing	4,988,085.62
Wholesaling	6,548,996.33
Manufacturing	1,313,723.02
Printing and publishing	25,571.60
Canning	12,896,275.49
Services business	104,180.00
Services, business and professional	3,709,709.89
Contracting	1,653,886.40
Theater, amusements and radio	901,736.94
Interest	223,788.59
Commissions	643,144.83
Rentals	2,576,054.80
Blind vendors	7,835.00
All other income	1,803,527.37
General excise totals	94,409,108.56
Consumption tax base	2,023,696.90
Seller's collections	61,871.20
Compensating tax base 1 percent	2,200,521.18
Total business	98,695,197.84
Salaries and wages	68,775,400.00
Dividends paid	2,855,584.00
Grand total, all income categories	170,326,181.84
Gross income taxes paid on business	2,272,744.43
United States Federal taxes, all sources	31,038,000.00
Territorial property taxes	1,023,564.12
Territorial net income taxes	71,173.50
Public utility	68,932.85
Compensation tax	635,904.60
Dividends paid	2,855,584.00
Bank and Federal credit union deposits	65,575,875.00
Corporation taxes	328,664.79

EXTRACT OF WIND DATA 1953

Analysis, January–December 1953

More than three-fourths of the time the wind at Kahului was north, north-northeast, northeast, or east-northeast at velocity over 4 miles per hour:

6 percent of the time at velocity of 1 to 3 miles per hour.
9 percent of the time at velocity of 4 to 12 miles per hour.
35 percent of the time at velocity of 13 to 24 miles per hour.
26 percent of the time at velocity of 25 to 31 miles per hour.
8 percent of the time at velocity of 31 to 46 miles per hour.

Source: From analysis made by United States Department of Commerce, Weather Bureau, Honolulu, T. H.

Mr. BYRNE. Has this presentation already been submitted to the Public Works Committee?

Mr. BURNETT. No, but this is very similar to the one submitted. Certain statements in this presentation have been brought up to date.

Mr. KLUCZYNSKI. Thank you, Mr. Burnett. Any questions? Colonel Hatch, can you give us the approximate amount of money needed to complete the survey?

Mr. PALMER. I would say about $23,000. We hope to transfer $5,800 from another study during this fiscal year.

Mr. HULL. You have enough if you transfer the funds?

Mr. PALMER. We have half of the amount originally estimated to complete it.

Mr. KLUCZYNSKI. Thank you, Mr. Palmer. Capt. Eric Stein is our next witness.

TESTIMONY OF CAPT. ERIC STEIN, REPRESENTING BOARD OF HARBOR COMMISSIONERS, AND HARBOR MASTER OF PORT OF KAHULUI

Captain STEIN. Mr. Chairman and members of the Public Works Committee, I am Eric Stein and I am with the board of harbor commissioners, harbor master for the port of Kahului.

The problem of Kahului Harbor is the inadequate turning basin. The turning basin of the harbor is 1,400 by 2,000 feet, and ships ranging from 400 to 570 feet stop at the port.

As you notice, our harbor is on the north shore of the island of Maui. We have northerly winds in our harbor. With the breakwaters on both sides as we enter from the sea, our course to enter into the harbor is due south under such winds. Ordinarily, about 75 percent of the year, the winds are from northeast. As you can see the wind strikes a vessel's port side and causes the ship to set toward the east shore. In order to turn to our wharf we have to make a sharp turn from the entrance in only 1,800 feet. Therefore, we have 1,200 feet to slow the ship down. When we slow the ship down the wind blows on the surface of the vessel which is 20,000 square feet. This pressure forces the ship into shallow water. That is over on this side; as we make the turn as we come in here [indicating on the map].

We have to make this turn. We can't go too far because we have only 1,800 feet from this point to this point. The danger is, if we can't make the turn quick enough, the wind will set the ship down on the lee shore and our stern is the first to be in danger. We respect-

fully request that you enlarge this area. We believe that if the harbor is widened about 700 feet from the widest point, to a width of 2,100 feet, the area will be sufficient for larger vessels like the *Leilani* to call at Kahului.

The problem of getting in is hard, but the problem of getting out is harder. The simple reason is that we have to turn the ship around in this area. While we are turning the vessel in this area, the wind from the northeast exerts pressure causing the ship to move further down and we are not where we expect to be. For that very good reason, we must increase our speed and proceed west, coming over to here [pointing on the map] before we can turn. Many times we have to drop anchor to swing the ship around. By going ahead too fast we will be right on the east breakwater. We haven't made the turn yet, because we don't have enough room, 1,200 feet from this area to this area [indicating on map]. When we go along here [indicating on map], we will take a chance of hitting the shoal when we swing north into the ocean.

It takes a little ingenuity to pilot in this harbor. The Matson Navigation Co. has experienced skippers and the harbor master handles other vessels, otherwise we would have quite a few accidents. On some occasions ships come in here and drop anchor because of the fierceness of the wind.

The vessels that call here make stops at Nawiliwili, Port Allen, and Honolulu. This is one of the last ports before they start loading again. In handling ships, most of the time our biggest problem is the shifting of light craft before the wind. We hope that you gentlemen will see the need here and provide for an enlarged harbor basin.

Mr. KLUCZYNSKI. What is the largest ship that doesn't give you any trouble?

Captain STEIN. They all give us trouble.

Mr. KLUCZYNSKI. How long have you been a harbor master?

Captain STEIN. Sixteen years.

Mr. KLUCZYNSKI. How long have you been on ships?

Captain STEIN. Since I was 15 years old. I am 62 now.

Mr. KLUCZYNSKI. You ought to know.

Captain STEIN. I have been handling ships 47 years.

Mr. KLUCZYNSKI. Thank you, Captain Stein, for your wonderful statement. Just a moment, Mr. Mack wants to ask you a question.

Mr. MACK. Captain Stein, what is the width of the navigable channel between the breakwaters?

Captain STEIN. From point to point on the breakwaters, more than 700 feet but this breakwater here [indicating on the map] slopes down. From this point to this point, more than 500 feet.

Mr. MACK. In windy weather is there some delay in getting in and out of the harbor?

Captain STEIN. When we have strong winds we proceed slowly and at the time the wind decreases we can make the turn. You see as we leave the back over here [indicating on map], the vessel is forced by the wind over to the lee shore and we cannot make the turn.

Mr. MACK. Those delays persist for what amount of time?

Captain STEIN. With the larger ships, a day or two with considerable cost.

Mr. MACK. What is the population of this island?

Captain STEIN. I believe about 40,000.

Mr. MACK. The 40,000 people depend entirely on water commerce for imports and exports?

Captain STEIN. That's right.

Mr. MACK. Thank you, Captain.

Mr. BYRNE. Captain, the ships that use your harbor now—the Matson Lines type—carry ten to twelve thousand tons?

Captain STEIN. Yes, sir.

Mr. BYRNE. What is the tonnage handled annually?

Captain STEIN. We have about 204,000 tons import; about 46,000 export overseas.

Mr. KLUCZYNSKI. Thank you, Mr. Stein.

Captain BERTRAND. Mr. Chairman, before you close the hearing on Kahului Harbor, I want to say a few words.

TESTIMONY OF CAPT. JACK BERTRAND—Resumed

Mr. KLUCZYNSKI. You may proceed.

Captain BERTRAND. Mr. Chairman and members of the committee, I am Jack Bertrand and I represent the Matson Navigation Co., am a member of the affiliated chamber of commerce and also a member of the Propeller Club of the United States, port of Honolulu.

I want to say for the record, since Matson Navigation Co. is the principal user of the harbor, Matson Navigation Co. feels that this project is worthwhile and will assist in getting the authorization for the enlargement of the basin so that we can bring our vessels in and out of the harbor with safety.

Mr. KLUCZYNSKI. Thank you, Captain Bertrand. That was quite a plug for Matson Navigation Co. That completes the harbor hearing—any more witnesses on that?

The record will be open for about 3 or 4 weeks. If anyone has anything to incorporate into the record, please get in touch with Colonel Hatch, of the Army engineers, Honolulu.

The next witness is Mr. Al Collins. Give your name to the reporter and whom you represent.

TESTIMONY OF AL J. COLLINS, REPRESENTING LAHAINA HARBOR COMMITTEE

Mr. COLLINS. Mr. Chairman and members of the Public Works Committee, I am Al Collins, of Lahaina, Maui, and I am representing the Lahaina Community Association, and the Lahaina Harbor Committee.

I expect to prove one thing—I am not a good public speaker.

I want to offer these statements to be incorporated in your record.

Mr. KLUCZYNSKI. Without any objection, it is so ordered.

Mr. COLLINS. I want to clear one thing up, I don't believe that a deep-water harbor, as such, is a feasible thing at Lahaina; but we do feel that the area should have a turning basin and an area sufficiently large to take care of our prospective small boats. That is about all I have to say. You shall see the area tomorrow, and I shall be glad to answer any questions.

In reading our brief, you will find that it expresses all the thoughts of the people of Lahaina. We are requesting a study of the situa-

tion over there and that is all that we can do. We are not making a request for consideration of direct appropriation. We understand that the engineers were authorized to study Lahaina Harbor in 1939 and turned in an unfavorable report. In 1951 they were authorized to make a preliminary study and this time turned in a favorable report.

I hope you'll get a chance to see this area. I want to offer this report to be made part of the record.

(Material furnished follows:)

NOVEMBER 7, 1957.

COMMITTEE ON PUBLIC WORKS,
Congress of United States,
House of Representatives.

GENTLEMEN: We submit herewith a copy of the subject resolution and a copy of the area engineers' report concerning the same, together with other information pertinent to the request for a study of the Lahaina project.

Your consideration of this project is again requested. Since 1951 the situatiton at Lahaina has changed to a great extent in favor of such a study. In view of our present lack of facilities to permit expansion of our industries, a study would be of great benefit to the community.

Being aware of the present trend toward greater public indebtedness and the tax burden resulting from it, we feel very strongly that all projects should be studied by unbiased people prior to appropriations that will materially increase that indebtedness.

We request a preliminary survey by the area engineers, the survey to be more complete than those previously taken of the area in order that some practical engineering data will be available for your guidance.

Respectfully submitted.

A. J. COLLINS,
Lahaina Harbor Committee.

REPORT OF UNITED STATES ENGINEERS

Lahaina is located on the west coast or leeward side of the island of Maui. It is approximately 72 miles southeast of Honolulu Harbor, and 29 miles by water and 25 miles by highway from the existing Federal deep-draft harbor at Kahului, Maui. The Lahaina area has a population of approximately 6,000 people and is largely dependent for its existence on sugarcane cultivation, raw sugar production, and pineapple raising and canning. Bulk sugar and canned pineapples from this area are hauled by truck to Kahului Harbor for shipment to the mainland. About 287,000 tons of raw sugar and molasses and 7,700 tons of canned pineapples were shipped through Kahului Harbor in the year ending June 30, 1950. Of the foregoing, over 50,000 tons of sugar came from the Lahaina area. Fishing is another industry important to the economy of Maui.

The Territory has recently completed a breakwater for a smallboat harbor at Lahaina. The local interests desire that the harbor be further improved to accommodate interisland tug and barge service by the construction of an entrance channel through the reef and a turning basin adjacent to the smallboat harbor. The local people claim that such a project would improve the economic situation, provide a safe entrance to the smallboat harbor at Lahaina, reduce the cost of food, clothing, and merchandise by eliminating the haul from Kahului, stimulate the fishing industry in this vicinity by providing for larger boats, and attract large recreational craft and many tourists. In view of the fact that conditions have changed materially in the 20 years since the last investigation of this area, and the demonstration of the need for additional harbor improvement by the local people, it is believed that a review examination of preliminary scope is desirable at this time. The cost of this investigation is estimated at $7,000.

Lt. Col. W. D. MILNE,
Corps of Engineers, Deputy Chief of Civil Works for Rivers and Harbors.

RESOLUTION OF COMMITTEE ON PUBLIC WORKS, HOUSE OF REPRESENTATIVES, WASHINGTON, D. C.

Resolved by the Committee on Public Works of the House of Representatives of the United States, That the Board of Engineers for Rivers and Harbors be, and is hereby requested to review the reports on Lahaina Harbor, island of Maui, Territory of Hawaii, submitted to the Congress on December 10, 1931, with a view to determining whether it is advisable at this time to improve the said harbor to accommodate seagoing vessels.

Adopted for PE study.

Adopted September 27, 1951.

Attest: J. H. McGann, Sr., clerk.

Requested by Delegate Joseph R. Farrington.

Cargo and shipping

(1) Tonnages: Kahului to Lahaina, estimated 30,000 tons per year. Lahaina to Kahului, estimated 110,000 tons per year.

Above is for the two major industries only and does not include retail merchandise services nor liquid fuel—as gas, oil, diesel, etc.

Percent increase in trucking last several years has been roughly 50 percent.

Hotel and other developments now in process of construction, contracted for and/or being designed are estimated at $36 million and should increase freight tonnage by several thousand tons.

Trucking-cost differential Lahaina and Kahului; Lahaina, $3.94 per ton; Wailuku, $2.82 per ton; Kahului, $2.25 per ton.

Land ownership

Private, less than 500 acres; corporate, approximately 8,000 acres; Government, approximately 2,200 acres.

Note above does not include forest reserves. There is a great deal of land capable of development other than above.

Water supply

Adequate for the foreseeable future.

Power

Adequate, in excess of expected demand.

Estimated population changes due to development of visitor services:

Employment:		Population:	
1957	1,500	1957	6,000
1967	4,300	1967	14,400

Note above is based on Kaanapali development only and does not include services based on the projected interisland ferry services now being developed.

Mr. KLUCZYNSKI. Without any objection, it is so ordered into the record. Thank you, Mr. Collins. We will now go into commercial fishing, and our next witness will be Mr. David Ting.

Mr. TING. Honorable members of the House Public Works Committee of Congress, I am David Ting, representing the commercial fishing boats on the island of Maui. I am the president of Maui Fisheries, Marine Products, Ltd., owner of six large tuna sampans.

I would like to present to you and your committee, a map prepared by Mr. Yapp, manager and chief engineer of the Board of Harbor Commissioners, covering the Maalaea small-boat harbor project. (Exhibit D, maps, see committee file.)

The Maalaea small-boat harbor is located on the southwest coast of Maui, and, at the present time, is usable only by the small fishing sampans ranging up to 40 feet in length, and cannot be used by the larger fishing sampans such as those used in the tuna-fishing industry on the island of Maui and in the Territory. Whenever there is a storm, boats have to go clear around the island for safe anchorage at Kahului Harbor, taking approximately 5 hours. After the storm has

subsided, it takes another 5 hours to return to Maalaea, which is the baiting grounds for our fishing fleet. The tuna-fishing industry in the Territory of Hawaii is one of the industries that has great potentialities. I would like to present to you a report prepared by the Territory Board of Commissioners of Agriculture and Forestry, Division of Fish and Game, entitled "Economic Opportunities for Hawaii in Fisheries" (entered in the record as Maui exhibit E) and also, summary of the Potential Income to Primary Producers for Hawaiian Fisheries (entered in the record as Maui exhibit F) which covers in detail the potentialities of the fishing industries. Based on this report, present production is around 13 million pounds of tuna fish annually, having a gross value of $3 million. The industry has a potential annual income in the amount of $56 million, giving employment to thousands of people, paying tremendous amounts in taxes, and will greatly help the economy of the Territory of Hawaii. Out of this amount, the tuna fleet of Maui produces approximately 3 million pounds annually with a gross value of $500 million.

(Matter referred to is as follows:)

ECONOMIC OPPORTUNITIES FOR HAWAII IN FISHERIES[1]

(Revised February 4, 1957)

INTRODUCTION

It is natural that the people of Hawaii would look to the sea as a possible source of wealth. The sea is vast and our land is small and therefore more limited in the amount of production which can be obtained from it. It is inevitable therefore that we should consider the sea as a new frontier for economic expansion.

This paper is concerned with a preliminary, and frankly speculative, appraisal of the potential marine resources available to the people of Hawaii. Some of the problems requiring solution, if these resources are to become a real source of wealth, rather than a potential one, are discussed; the problems considered are those relating to harvesting the fish in the main. The fishing industry has become a highly competitive one so far as exportable products are concerned. While Hawaii apparently has enormous resources of pelagic fish within reach of her ports, this is not a unique advantage since currently other areas, notably those exploited by the Japanese, can apparently satisfy the demands. Additionally fish is, so far as large-scale marketing is concerned, another protein food faced with the competition of such foods pricewise. However, substantial reductions in production costs may change the relative competitive situation and thereby afford an opportunity for the fishing industry to expand. The immediate problem seems to be a problem of marketing, of selling the fish that may be canned; the solution of this problem is likely dependent in turn upon the solution of another: reduction of the costs of production of raw fish.

The present paper is to be regarded as a discussion of directions in which we could best go rather than an estimation of any real dependability of what these resources may be worth. The values assigned to various segments of the deep-sea fisheries are estimates intended to convey a general order of magnitude of potential production. It may be that even if such a potential production is available, it may never be approached for many reasons.

PRESENT ECONOMIC STATUS OF THE HAWAIIAN FISHERIES

The deep-sea or offshore fisheries of Hawaii has increased somewhat since the end of World War II, and the production of certain inshore and bottom species has likewise increased as the result of an expansion of fishing to the virgin areas of the Leeward Islands. Otherwise there has been declines in production of many inshore species. These declines have been masked by the much greater increases of the offshore fisheries; however, the income to the

[1] Territory of Hawaii, Board of Commissioners of Agriculture and Forestry, Honolulu, Division of Fish and Game.

fishermen as a whole has slightly declined, since, in general, inshore species have a greater value per pound than do the offshore ones (table I). The number of licensed fishermen has also decreased (table II).

TABLE I.—*Weight and value of commercial fish landings for Hawaii, 1946–55*

	1946	1947	1948	1949	1950
Weight	10,699,672	12,402,099	14,143,786	16,165,082	16,129,893
Value	$2,881,824.57	$3,952,021.31	$3,949,046.15	$3,911,469.97	$3,508,474.89
	1951	1952	1953	1954	1955
Weight	19,372,133	13,854,815	18,798,536	20,523,375	15,350,576
Value	$3,963,427.52	$3,408,893.83	$3,758,217.29	$3,653,359.23	$3,096,176.41

NATURE OF HAWAIIAN FISHERY RESOURCES

The fishery resources of Hawaii fall naturally into two distinct categories: Offshore or pelagic resource; and inshore, reef and bottom fish resource. The offshore resource is capable of yielding a far greater production than is presently obtained from it, on the other hand, many segments of the inshore resource has been dangerously overused for many years and the yields realized have, from those segments, been declining with the passage of time.

Therefore, two rather different programs are required, one for the offshore fishery resource, and another for the inshore resource. The offshore resource requires measures which will increase yields—in short an expansion of fishing. The inshore resource requires measures of conservation in order to restore yields which have been lost through careless management and reckless use. For example, the yields from inshore fisheries of Hawaii were 4,841,319 pounds in 1900, and 5,620,574 pounds in 1903, the only early years for which complete figures are available. The comparable yield for recent years has been somewhat more than 2 million pounds, 2,039,424 pounds in 1950, for example. This lack of adequate management of these inshore fishery resources has apparently cost the people of the Territory between 3 million to 3,500,000 pounds of fish worth between $1,400,000 to $1,650,000 annually. This is actually a minimum estimate since it is for the commercial catch alone and does not include fish taken directly for home consumption which has likewise been reduced to an unknown extent for the same causes.

OFFSHORE OR PELAGIC FISHERIES

These fisheries can be considered in three segments: Equatorial tuna fisheries, local tuna or aku fisheries, and North Pacific albacore tuna fisheries.

Equatorial tuna

The equatorial tuna resource, discovered and explored by POFI, lies some 1,200 to 1,500 miles south of Oahu and is in its richest part a band of about 300 miles in width and 1,500 miles in length. Here is a zone of enrichment produced by the interaction of three great ocean currents—the North Pacific Equatorial Current, the South Pacific Equatorial Current, and the Equatorial Countercurrent lying between (1) the magnitude of this zone together with the observed abundance of fish has caused some competent observers to estimate the potential productivity as about the same as for those tuna areas now exploited south of California, off Central and South America. The value of yellowfin tuna (ahi) from the west coasts of Central and South America has been about $30 million, and (2) a year to the fishermen and perhaps twice that amount as a processed product.

What are the problems which must be solved before this equatorial stock of tuna can be profitably exploited?

The most important problem is the need for fishing methods of great efficiency. The only method presently available is productive enough, however, to give some hope that with some increase in efficiency it may permit a profitable fishing operation in this area. Work on this problem is actively underway and some progress has been made. The program of gear improvement is being carried on by POFI. The division of fish and game is also cooperating in the program by conducting

experimental tests at sea with various modifications of this gear on the research vessel *Makua*.

Catches made from the equatorial fishing grounds have consisted of a fair proportion of fish not suitable for processing as canned tuna. This part of the catch is composed of marlins, very large tunas and sharks. Processed products which would permit the use of this part of the landings would seem essential if the fishery is to be a profitable one. Very little actual work has been done yet to solve the problem (9) but the urgency of a solution is well recognized, as well as some of the difficulties, a major one being the establishment of markets for any new product.

A new fishing fleet would be required if fishermen from Hawaii are to exploit this fishery. Of course, practical solutions to those problems discussed above would necessarily have to be available, at least in part, before there could be any justification for the construction of suitable boats or their purchase from, possibly, west-coast ports. However, any substantial program of new vessel construction would likely require arrangements for financing, either Government or private.

Finally, any major increase in the volume of canned tuna would necessitate a corresponding expansion of markets. The present per capita consumption of canned tuna in the United States amounts to only three cans per year so that it is not unreasonable to expect that the market can be expanded, but such expansion must be secured if the industry is to grow.

Local skipjack or aku

The local aku fishery presently produces as much as 12 million pounds annually. This production is taken from the immediate offshore waters of the Territory, 90 percent of the catch being taken within 20 miles of land, yet exploratory scouting trips have revealed no substantial reduction in abundance of schools of fish as far out as 300 miles from land at least (1). Hence a potential production of some 10 times as great as that presently realized would seem not an unreasonable estimate. The annual income to the fishermen, based on a tenfold increase, would amount to approximately $15 million.

What are the problems which must be solved before this fishery can be expected to expand? Here, again, the fishing method is at the heart of the matter. This fishery presently employs life bait for chum to attract tuna to the vessel where it is taken by pole fishing with artificial lures. Live bait is an absolutely essential ingredient in this method of fishing; in fact, the catch of aku is significantly correlated with the catch of bait. The live-bait resource is an inshore fishery resource restricted to limited estuarine areas and therefore in limited supply. Some supplementation to the bait supply may be obtained through bait-handling techniques which result in fewer bait fish dying before the fishermen can employ them at sea and also through the pond cultivation of other species for live bait. Some promise of success through both these approaches has been obtained by a research program of the division of fish and game supported through an IRAC grant. Sea tests of pond-raised *Tilapia mossambica* have demonstrated that this species can be successfully employed as a bait fish. Additionally, two plantings of a Marquesan sardine has been made in the waters about Oahu. This species has different habitat requirement than any of the local bait-fish species which may result in a major increase in the bait supply should it become successfully established in Hawaiian waters.

POFI has supported a program carried on in major part by Dr. Tester, of the University of Hawaii with the goal of developing an artificial substitute for live bait. There are some other similar programs in course elsewhere, but as yet nothing promising has resulted from sea trials. (1) (5)

Perhaps some totally different approach to this problem is needed. Some of the conventional methods such as purse seining, and gill netting have been tried without real success, and it is likely that a new or unconventional method is required rather than any adaptation of present fishing method if it is to replace the live-bait technique. Electrofishing has been the subject of considerable research, some of it here in Hawaii by the University of Hawaii with POFI support, but as yet no results which can be applied to the high-seas fisheries have appeared.

If some solution to the need of a more effective fishing technique is reached, again the problem of increasing the sale of the product must be faced.

Albacore fishery

There are indications of the existence of substantial stocks of albacore tuna (7) in a region north of the islands. Very little is presently known of these stocks

and their magnitude; however, judging from the existing Japanese fishery to the northwest of Midway Island, a very speculative ceiling of $10 million might be tentatively assigned to this resource.

The problems associated with the exploitation of the albacore north of Hawaii are somewhat difficult to properly appraise since the exploratory research program of POFI has only begun. It is necessary to secure more adequate information on areas of greatest abundance of fish as correlated with seasons and hydrographic changes. Additionally, fishing methods need improvements in efficiency; an improved longline method required for the equatorial area might also serve here. This fishery would be conducted in a region subjected to much heavy weather and may therefore require the development of fishing craft of unusual seaworthiness. Albacore have rarely been taken in sufficient volume to oversupply the market; the problem of marketing the processed product would be less than for any other species of tuna. Albacore is the only species which can be packed as white meat tuna as contrasted with light meat for the others and is therefore used for the top-grade pack.

Local ahi or yellowfin tuna resource

Potential production: Presently this fishery produces for the fresh fish market. It is not likely to expand without a substantial increase in the efficiency of fishing methods used, thus reducing the unit production cost so that the fish taken can be used for the preparation of processing a product suitable for export, and in addition a processed product for the very large fish which are usually taken can be used. This fishery has many of the problems of the equatorial tuna fishery but is apparently exploiting a substantially less concentrated stock of fish.

Summary

Offshore resources: It is apparent that the magnitude of these offshore fishery resources are great enough to sustain any fishing industry, likely to be developed from them, in Hawaii. The factors which will likely control or limit the growth of the fishing industry may be related to markets and marketing competition or to the costs of catching fish here as compared to other areas.

Any expansion of fisheries from Hawaii will require an expanded fishing industry with such components as shipyards, larger processing facilities and a larger fishing fleet with a proportion of larger, longer range vessels than are presently used. All these things can be obtained given sufficient capital and the promise of an adequate return for investments in fisheries. However, a shortage of trained fishermen would almost inevitably develop if such an expansion were rapid. Good deep-sea fishermen are presently in short supply and there is no indication that the supply of such men will increase in the immediate future. The number of commercial licenses issued by the Division of Fish and Game has declined since the end of World War II until 1952; since then the variation in the number of licensed fishermen has not shown a trend.

TABLE II.—*Number of commercial fishing licenses issued, 1946–55*

Year	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Number of fishermen	3,396	3,532	3,111	2,446	1,964	1,710	1,655	1,565	1,521	1,662

Additionally, men with training not now readily available among commercial fishermen will be required. Few of the present fishermen can now navigate well enough to safely operate long-range boats nor have they had adequate experience with mechanical refrigeration which such boats would require. Training in these and related subjects might be appropriately offered in vocational schools at least when the need for such training becomes apparent.

INSHORE REEF AND BOTTOM FISHERIES

As discussed in the introductory section, many of these fishery resources require rehabilitation. This task can be done in part by a vigorous conservation program for these fisheries based on research to chart the course of the program, a public education and information program to inform the public concerning what must be done and thus secure public acceptance and cooperation for the program of conservation, regulatory powers to take action which research indi-

cates is proper, and finally sufficient staff for whatever agency is charged with these responsibilities to properly perform them, including the necessary task of enforcing the regulations. Another way to increase the productivity of the inshore, reef and bottom fisheries may be through the introduction of inshore marine and game-fish species which will use certain of the fish-food resources of the reef that are presently largely wasted insofar as man is concerned. The species composition of fish occurring on Hawaiian reefs is of such a nature as to give a low yield of food fishes in spite of the fact that fish stocks of considerable magnitude to occur on reef areas. (8) Then, too, major families of important inshore shallow water food fishes of the tropics are lacking from the Hawaiian fauna. These are the snappers and groupers or sea basses. An attempt to correct this deficiency was recently made by the Division of Fish and Game through the assistance of an EPCA grant. Several species of snappers and groupers were transported from Tahiti to Hawaii through the cooperation of POFI and released at suitable localities from Hawaii to Kauai.

If any real measure of success is obtained through these programs for the rehabilitation of the inshore fisheries of Hawaii, that success may well add $1 million in income to the fishermen and also supply additional fish for those who fish for sport and food. The success of the program may well be worth substantially more than $1 million to this latter group of sport fishermen.

Summary of potential income to primary producers for Hawaiian fisheries

Potential annual income to the fishermen from yellowfin fisheries south of Oahu	$30,000,000
Potential annual income to the fishermen from albacore north of the Hawaiian Islands	10,000,000
Potential annual income to the fishermen from local tuna	15,000,000
Potential increase in income to fishermen from rehabilitation of inshore fisheries into inshore areas	[1] 1,000,000
Total	[2] 56,000,000

[1] This estimate is based on possible returns to commercial fishermen alone. The sport fisheries for inshore species are now worth much more than the returns to commercial fishermen and this difference will likely increase in the future.

[2] This income is computed for the primary producer. For fish used in canning, the value of the product is about twice as great. No allowance has been made for the ability of the market to absorb a great increase in production. This aspect is of major consequence for abi (yellowfin) and aku (skipjack), much less for albacore which is chronically in short supply.

STATUS OF THE WORK IN PROGRESS ON THE FISHERY RESOURCES OF THE CENTRAL PACIFIC

The programs briefly described below are admitted sketchy and incomplete. Those of the Territorial Division of Fish and Game, Board of Commissioners of Agriculture and Forestry, are given in somewhat more detail than the others.

Program of POFI (Federal agency)

This program is concerned with the exploration and development of more efficient fishing methods for the equatorial tuna resource, local aku resource and the northern albacore resource. (1, 7) All worthwhile avenues of attack are included in this large-scale program. The program does not include any attack on economic or processing problems. It is a major program presently budgeted at $870,000 per annum.

Program of Division of Fish and Game (Territorial agency)

This program is directed toward the needs of the local fisheries more specifically than the program of POFI. Through IRAC support an attack on the live-bait problems of the aku fishery has been completed with some degree of success. In addition to the introduction of Tilapia mossambica for use as pond-cultivated bait fish, to clean algae from irrigation systems, and as a pond-raised food fish, three additional species of Tilapia have been brought to Hawaii for test to see if any of these species may prove more valuable for any of the application listed above. These species are Tilapia zilli, Tilapia melanopleura, and Tilapia macrochri. The Division is also cooperating with POFI in sea tests of an improved flagline fishing method. Studies on the life histories of commercially valuable species such as aku and akule have been published.

The Division also has a program for the conservation of reef and inshore fishes. This program is concerned with the conservation of the Hawaii inshore fishes, consisting of (1) a program of research leading to the development of effective management methods for this segment of our fisheries and (2) the selected introduction of new species of inshore fish designed to increase the productivity of the inshore fisheries.

The Division maintains a system for the systematic compilation and study of the catch statistics of Hawaiian fisheries.

The Division's program is $50,000 per annum, which funds are from Federal aid grants to the Territory for restoration of game fish species, from license receipts, and from an EPCA grant during the present year.

Program of the University of Hawaii (Territorial agency)

Some life history studies of bait fish species and others of commercial importance, together with some basic research into fish systematics, ecology, physiology, and biology in part at the Hawaii Marine Laboratory.

Special projects which are portions of the POFI program and are financed by POFI.

The documentation upon which this brief summary has been based is given in the attached bibliography. The numbers used with the text statements correspond to the order of listing in the bibliography.

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Mr. TING. There being no harbor and safe anchorage for larger tuna boats on this side of the island at the present time, it is very necessary that we have these accommodations in case of a storm; therefore, we would like to ask for Federal aid in the completion of the Maalaea small-boat harbor.

Mr. SCUDDER. I would like to ask you one question, Mr. Ting. Is the tuna canned here?

TESTIMONY OF DAVID TING, OF MAUI FISHERIES, MARINE PRODUCTS, LTD., KEHEI, MAUI

Mr. TING. The tuna is canned here in Hawaii by the tuna packers on the island of Oahu.

Mr. HULL. How many vessels are in use at Maalaea?

Mr. TING. At the present time there are about eight. However, there are 30 boats from Honolulu, ranging in size from 75 to 90 feet, that use Maalaea for baiting ground.

Mr. HULL. What is the estimated tonnage coming from Maalaea?

Mr. TING. You have that included in the report that I submitted to you. It is about 3 million pounds annually.

Mr. KLUCZYNSKI. Now, Mr. Ting, you wish to introduce our next witness?

Mr. TING. The next speaker will be Mr. Elmer Davis.

TESTIMONY OF ELMER DAVIS, REPRESENTING UNITED STATES COAST GUARD AUXILIARY, WAILUKU, MAUI

Mr. DAVIS. Mr. Chairman and members of the committee, I am Elmer Davis and I represent the United States Coast Guard Auxiliary, commercial fishing, small-craft charter-boat fishing, and pleasure fishing.

There is only one harbor within this area which is at Maalaea. We have three bad channels. The wind blows very hard, usually 80 percent of the time.

Matson and American Factors are in the planning stage to build two large hotels in this area. There will be a great demand for charter fishing and commercial boats to travel between Maui County and Honolulu. There are charter boats now in operation.

We have at Maalaea Bay approximately 15 small-fishing-boat owners that make part of their living by commercial fishing. There are many more looking forward to making fishing part of their income.

There are approximately 300 small and large pleasure and fishing boats in this county of Maui. They are out almost every weekend due to the great demand of fishing; that is, tuna fleet, small craft, charter boating, and pleasure fishing.

Most of our air, sea, and rescue work lies in this area. Therefore, you can picture that we are badly in need of Federal assistance in the creation of a refuge haven for boats for this county of Maui.

Gentlemen, I want to submit this letter, which I am going to read, to be made part of the record.

PUBLIC WORKS COMMITTEE,
House of Representatives, 85th Congress, Inspection Party,
Civil Works Project, Hawaiian Islands.

DEAR SIR: I am representing commercial fishing small craft, United States Coast Guard Auxiliary, and pleasure boating for this county of Maui. At this time I want to stress the need and importance of a very badly needed Federal aid for a small-boat harbor, preferably at Maalaea Bay. Around Maui, Lanai, Molokai, and Kahoolawe, there is no haven for small craft and commercial fishing fleets other than the present deep harbors such as Kahului and Kaunakakai. We have three very bad channels surrounding this island of Maui. Matson and American Factors are in the planning stage to build two large hotels within this area, and the future need is already in demand for charter boat fishing. Ninety percent of our air, sea, and rescue work is around the area I have mentioned. Therefore, it is very important to the Territory that this committee do their utmost best for their help in this proposed project. Thank you.

Very truly yours,

ELMER E. DAVIS,
Commander, United States Coast Guard Auxiliary,
Director, Maalaea Boat and Fishing Club.

Mr. KLUCZYNSKI. You have about 300 fishing craft here?

Mr. DAVIS. Yes, sir; in the county.

Mr. KLUCZYNSKI. Can you tell me roughly about how many fishing and pleasure boats were here about 10 years ago?

Mr. DAVIS. I can't say offhand how many there were at that time.

Mr. KLUCZYNSKI. The reason I asked that question is because I am part of a committee making a survey on pleasure boating. I am amazed to learn that 20 million people are taking advantage of that sport. It is increasing by leaps and bounds and we are trying to set up some new regulations for pleasure boating. Mr. Davis, you mentioned chartered boats, how many charter boats do you have here?

Mr. DAVIS. We have two now, but we see a future for quite a lot more.

Mr. KLUCZYNSKI. Any other questions? Thank you, Mr. Davis. Our next witness is Mr. Kaiuwailani. Give the reporter your name and whom you represent.

TESTIMONY OF BEN KAIUWAILANI, VICE COMMODORE OF HAWAII, WAILUKU, MAUI

Mr. KAIUWAILANI. Honorable chairman and members of the Public Works Committee of the House of Representatives of the 85th Congress of the United States of America. Aloha to our fair islands of Maui. My name is Benjamin Kaiuwailani, vice commodore of Hawaii, United States of America.

My presence before your honorable committee is primarily to stress the need of Federal assistance in the study and construction of more refuge havens or harbors for light draft vessels in the county of Maui which is comprised of the islands of Maui, Molokai, Lanai, and Kahoolawe. The need for refuge havens for small boats has been apparent for a long, long time due to the thousands of dollars lost by the destruction of small boats anchored in the open sea for lack of a safe anchorage.Often they have been caught by storms known in these islands as the kona. A kona is a southerly blow with wind velocity ranging anywhere from 40 to 60 miles an hour.

Accordingly, a group of small-boat owners got together in 1939 and requested the board of harbor commissioners to make a survey and study for a small-boat haven at Kalepolepo, Kihei, for which I am submitting for the record two written reports covering the study of the subject matter from 1939 to 1957.

(Material mentioned follows:)

MAALAEA SMALL-BOAT HARBOR

The 1947 session of the legislature by Act 205 appropriated $85,000 for a boat harbor at Kihei, Maui. Of this, $1,171.59 was spent on plans, etc., and the balance of $83,828.41 was reappropriated by Act 10 of the session for a boat harbor at Maalaea. January 6, 1952, a contract was let for construction of the west breakwater, dredging and other improvements. The 1953 session of the legislature by Act 280, appropriated an additional $50,000. A contract was let September 10, 1954, to W. T. Chang for construction of the east breakwater, deepening and widening of the entrance channel, and a small landing on the west breakwater for the expenditure of this amount. In 1957 by Act 150 an additional $150,000 was appropriated to make the harbor suitable for the larger fishing boats. On July 2, 1957, request was made to the Governor's committee on priorities for an allotment of $5,000 for preparation of the plans. This allotment, as well as others, is held up pending the appointment of the Territorial planning officer, which appointment the Governor probably will make upon his return from the mainland.

It is anticipated that the $150,000 appropriation will complete the following items of work as shown on the accompanying plan.

1. Dredging to —8-foot depth.
2. Dredging to —11- and 12-foot depth.
3. Construction of wharf facilities.

In order to complete the Maalaea small-boat harbor, additional appropriation is necessary to complete the following, also as shown on the accompanying plan.

1. Acquisition of land on the north side	$10,000
2. Construction of bulkhead wall and fill against wall on north side	120,000
3. Additional mooring facilities (catwalks) from bulkhead wall	45,000
4. Paving	25,000
5. Roadway	20,000
6. Navigational aids	2,000
Total	222,000

History of Proposed Small-Boat Harbor at Kalepolepo, Maui, and Small-Boat Harbor at Maalaea, Maui

In February of 1939 a newly organized group of Maui small-boat owners, the Hui Maku Boat Club, requested the board of harbor commissioners to survey the possibility of adapting the abandoned Kalepolepo fish pond as a small-boat harbor. In March of 1939 the rivers and harbors bill authorized a survey of Kalepolepo but presumably there was no appropriation provided.

The 1939 legislature appropriated $15,000 for a small-boat harbor at Kalepolepo. An investigational survey of the area in March of 1939 revealed that the amount of money provided was woefully inadequate. In August of 1940 the superintendent of public works ordered the Maui district engineer to prepare plans for using the appropriation to remove only the large coral heads from the channel area. Subsequently, in December of that year the Maui Boat Club was advised that nothing could be done, as the Governor had not released the funds.

There is no further mention of these projects until after World War II.

In March 1946 the Rivers and Harbors Act (Public Law 14) authorized a survey and report of the Kalepolepo project.

Act 205, SLH 1947, appropriated $85,000 for "Boat harbor at Kihei, Maui, land and facilities."

Informal hearings were held on Maui in May of 1948 with the interested parties on an alternate plan for Kalepolepo with a different orientation of the channel and a smaller boat basin. The object was to arrive at a suitable plan which could be built within the appropriation and serve the purpose. There was a nearly unanimous objection by both the small-boat owners and the commercial fishermen. All felt that the basin which could be provided was entirely too small and that the channel should be oriented in a more northerly direction, leaving the west wall to furnish protection against Kona seas.

The United States engineers in May 1948 were authorized to make a complete survey of Kalepolepo with borings, soundings, current studies, and a complete report and plans. The superintendent of public works then recommended that the $85,000 be reappropriated to provide land, rights-of-way, shore facilities, etc.

In June of 1950 the United States engineers advised that their investigation was finished. Under the requirements of the act, the Territory would have to provide all necessary land, easements, rights-of-way, utilities, and shore facilities necessary and also contribute $13,000 as their share of the $380,000 estimated construction cost of channel and basin. The board of harbor commissioners wrote to the United States engineers in June 1950 agreeing to the above stipulations.

In October 1950 the second special session of the legislature, by H. R. No. 20, requested the board of harbor commissioners to investigate the possibility of a small-boat harbor at Maalaea.

By letter of January 1951 the board reported to Representatives Paschoal and Fong and Senator Ansai outling the project and giving estimate of cost of $165,000, and suggesting that the $85,000 for Kihei be transferred and utilized at Maalaea. Senator Ansai answered saying that Maui boatowners felt that the plans were too elaborate and suggested that work be kept within the $85,000 by eliminating most of the dredging to —10 feet in the boat basin. The board then outlined to Senator Ansai approximately what could be done for $85,000.

The Governor approved the expenditure of funds in November of 1951. Bids were opened in January 1952, construction begun in April 1952, and completed in March of 1953.

By Act 280, approved in June 1953, the legislature appropriated an additional $50,000 for Maalaea boat harbor. Funds were released by the Governor in August 1954, contract awarded in September, and completed in April of 1955. This second increment consisted of the east breakwater, a small landing on the west breakwater, and a small amount of dredging to —11 feet in the vicinity of the new landing.

In March of 1956 the United States engineers stated that since the "completion of the Maalaea boat harbor by the Territory" there was no longer need or justification for a small-boat harbor at Kalepolepo. The board of harbor commissioners replied by letter concurring in the abandonment of any plans for work at Kalepolepo.

In May 1956 Brigadier General Cassidy's unfavorable report on the development of Kalepolepo small-boat harbor was sent to all legislators, Maui County officials, and also to various interested business firms and individuals.

The Office of the Chief of Engineers sent a copy of their report in September 1956 to the board requesting comment thereon. The board in reply pointed out that there was still no safe anchorage along the entire southwest coast of Maui for the fishing sampans and requested aid from the United States Engineers in dredging Maalaea boat harbor to a depth that would make this harbor usable by these vessels. In November 1956 the board received a letter from the Office of the Chief of Engineers regretting that there was no way in which the United States engineers could aid the Territory in this matter.

Although the United States engineers are right in the abandonment of the Kalepolepo small-boat harbor project on the basis that there is no need for two such harbors in Maalaea Bay, they seem to have lost sight of the fact that the original goal was not only to provide for small pleasure craft, but also for the commercial fishing sampans that operate in this area. Additional justification for the original project was the provision of a safe haven in the event of a sudden storm, for charter fishing boats, commercial sampans, and other boats either operating in the area or in transit between the islands.

Instead of the $13,000 contribution toward an estimated construction cost of $380,000 at Kalepolepo, the Territory has spent approximately $140,000 at Maalaea. This amount has provided a protected basin for small boats. Since this construction by the Territory forms the basis for the present unfavorable report on Kalepolepo it would seem to be in order for the United States engineers to participate in the additional dredging necessary at Maalaea to make this harbor also suitable for the larger fishing boats. Otherwise the inescapable conclusion is that the Territory is being penalized for providing such facilities as it was able to within the limits of funds available. It would seem that the Congress should encourage local government to provide all improvements possible within their financial limitations and be more disposed to offer aid to those governments that have done so.

Mr. KAIUWAILANI. In conclusion, I would like to suggest that your honorable committee recommend the appropriating of additional funds to continue the study of harbors for light-draft vessels in the Territory as authorized by section 110, River and Harbor Act, May 17, 1950, which was ordered stopped due to the Korean war. Thank you for granting me the opportunity and privilege of addressing your honorable committee.

Mr. KLUCZYNSKI. I want to thank you for your statement on small-boat harbors. Any questions to Mr. Kaiuwailani? Anybody else here to speak on a small-boat harbor?

Mr. COLLINS. Gentlemen, you asked about the Coast Guard; I want to say that the Coast Guard Auxiliary in this area is doing an outstanding job with insufficient equipment.

Mr. KLUCZYNSKI. That completes that. Now, highways, a problem everybody is interested in. Mayor Tam is going to speak on that subject.

TESTIMONY OF MAYOR TAM, WAILUKU, MAUI

Mayor TAM. Honorable chairman and members of the committee, I would like to say this: I am sure that your purpose here is to make an on-the-spot inspection of roads, rivers and harbors, flood control, and Federal buildings, and I am sure that Mr. Wachter has already briefed you on the need for roads.

Mr. Chairman, you mentioned the good condition of our roads from the airport to the hotel and I want to assure you, gentlemen, that only very small portions of our roads are good. I hope that we will have enough time to give you a ride on some of our really bad roads, so bad that you will not consider taking a second chance.

Back about 14 years ago, some 60,000 troops were using the roads of this island quite extensively. I am sure that Mr. Wachter has given the committee all the information on Federal highways throughout the Territory. As the Territory includes separate counties, taxes on gasoline we use in automobiles are paid into the Federal Treasury to help maintain and build defense highways as our part to the United States. We do not get a part of that back at all. We would like to be given some consideration on the highway situation here on bad roads. Thank you very much.

Mr. KLUCZYNSKI. Any questions to the mayor?

Mr. MACK. I think all the members of the committee agree that the island is not getting a fair deal in collecting so much money in taxes and receiving only a portion back. I think this committee will do its best to rectify this situation in the next session of Congress.

Mr. KLUCZYNSKI. Any question, Mr. Hull?

Mr. HULL. No questions.

Mr. BYRNE. I have no questions.

Mr. DOOLEY. This is not a question, but I would like to endorse the statement of Congressman Mack, and I am in entire agreement.

Mr. BYRNE. Mr. Chairman, making a comment with reference to the mayor's statement on roads, I can see your needs. At times we were taken on roads on Hawaii that were not the best in the world and, because we are Congressmen riding to inspect roads, at the same time endangered our lives doing it, they proved to us the need for new roads.

Mr. KLUCZYNSKI. No further questions? Mr. Wachter, do you want to say anything for the record?

Mr. WACHTER. I have nothing to say at this time.

Mr. KLUCZYNSKI. Thank you, Mr. Wachter. I want you people to know we were briefed by Colonel Hatch and Mr. Wachter day in and day out on the trips here in the islands.

Let's go into flood control. Our next witness is Masao Sone.

TESTIMONY OF MASAO SONE, DEPUTY COUNTY ENGINEER OF MAUI

Mr. SONE. Mr. Chairman and members of the Public Works Committee, my name is Masao Sone, and I am representing the county of Maui and the community. We have on this tackboard enlargements of aerial photos and maps of the Iao Stream area where flood control is a necessity.

We will cover the areas from the Iao Needle where we can see the sources of the stream, thence along the portion where flood control is required, a portion where permanent improvement on flood control

has been completed by the county of Maui at a cost of $581,665, other areas needing flood control improvement, and an area where the county proposes to construct flood-control structures with the $100,000 appropriated by the 1957 legislature. These areas will be covered on our inspection trip tomorrow morning.

The Iao Stream has been a problem to the local government and community because of loss of lives and losses incurred by property damages caused by flash floods that have occurred from time to time. There is a drop of approximately 750 feet in the 3½ miles of stream, causing a high velocity of flow which creates a problem because once the flow breaks through the bank, the stream will often take new routes. Flash floods cause a lot of debris to be brought down with the flow of water, and, together with the movement of rocks and boulders, cause the stream to become filled at various sections, thereby causing the overflow of the banks and incurring property damages and very often loss of lives.

The worst floods were in the years 1916 and 1950. There are 14 recorded deaths caused by the flood waters of the stream. A survey made in 1951 of damages suffered by residents of the area amounted to $130,000. The survey shows that a total of $3 million of real and personal property, utilities, and public works have been invested in the vicinity of the stream. This total does not include the $2 million Wailuku Sugar Mill Co.

A formal request to the United States Government was submitted in 1948 by the Department of Public Works for the flood control of Iao Stream of the county of Maui. As a result of this request, a favorable preliminary report was completed by the Corps of Engineers in 1954. This report recommended that a survey report be made but to date no funds have been made available. It is our request that an appropriation be made available to undertake the survey report at an estimated cost of $20,000 by the Corps of Engineers. I offer for the record these additional data and maps for your consideration. That is all I have, gentlemen.

(Matter referred to except maps K and L is as follows:)

IAO STREAM FLOOD CONTROL

A formal request to the United States Government was submitted in 1948 for the flood control of Iao Stream by the department of public works, county of Maui.

A public hearing on Iao Stream flood control was held at the county building at 7 p. m. on February 5, 1951, at which time, Col. F. H. Falkner, area engineer of the Corps of Engineers, was present. Written reports by local government, corporations, citizens, and all other interested parties expressing their views concerning the character and extent of the flood-control improvement desired and the need of its execution were filed with the area engineer.

The United States engineers and the Territorial public-works engineer have reviewed, recommended, and approved the design of the Iao Stream flood-control project prepared by the Maui county engineer, which project was then constructed by the county of Maui.

The construction of the Iao Stream flood-control project has been completed in these units involving the following expenditures:

Act 5, SLH 1950, appropriation	$100,000.00
First unit, started in 1951 and completed in February 1952:	
Contract amount	72,739.94
Engineering emergency undertaken by county of Maui	27,001.69
Total	99,741.63
Sec. 5812, RLH 1945, amended Act 342, SLH 1949, county bond	450,000.00
Second unit; 1953:	
Contract amount	361,019.63
Engineering services	14,409.61
Miscellaneous expenditure, acquisition of land	7,224.79
Additional work done by county of Maui	51,094.47
Total	433,748.50
Sec. 5812, RLH 1945, amended Act 342, SLH 1949, county bond	50,000.00
Third unit: Undertaken by county of Maui	48,175.19

The amount of $50,000 was made available by Corps of Engineers in 1954 for the clearing and snagging in the Iao Stream, which work was undertaken by Corps of Engineers. However, there was no construction of levees or other protective measures undertaken.

Mr. KLUCZYNSKI. Mr. Sone, are we going to inspect this Iao Stream?

Mr. SONE. Yes, sir; up along here [indicating on the map].

Mr. KLUCZYNSKI. That completes your statement?

Mr. SONE. Yes, sir.

Mr. KLUCZYNSKI. Any further questions to Mr. Sone?

Mr. MACK. You mentioned $581,000 having been spent by the county of Maui and not by the Territory of Hawaii, is that correct?

Mr. SONE. Yes, sir; that is correct.

Mr. MACK. Do you know how much was spent by the Federal Government?

Mr. SONE. Fifty thousand dollars was spent by the Federal Government for clearing snags in this area [indicating on the map].

Mr. KLUCZYNSKI. Any further questions?

Mr. HULL. This project has been authorized?

Mr. SONE. The survey has been authorized.

Mr. HULL. What title do you hold?

Mr. SONE. Deputy county engineer for the county of Maui.

Mr. KLUCZYNSKI. Thank you, Mr. Sone. Our next witness will be Mr. Noble Laesch.

TESTIMONY OF NOBLE LAESCH, REPRESENTING COUNTY OF MAUI

Mr. LAESCH. Honorable members of the House Public Works Committee of Congress, Federal-financed flood-control project for Kihei, Maui, is considered to be a matter of the utmost urgency and importance. Upon its accomplishment depends the development of one of the island's greatest economic potentials.

Torrential rains, commonly associated with "Kona" storms, are a constant threat during winter months. Upcountry cloudbursts may be experienced at any time of the year. When these deluges occur on the leeward slopes of our 10,000-foot mountain, the water is funneled into gulches and watercourses, gaining great volume and force as it rushes toward the sea. Upon reaching the lowlands, the swift-moving waters inundate considerable areas of residential and farmland and pour turbulently across stretches of the Kihei Road, which is buried under silt and debris. Telephone and power services may be disrupted. Rivers gush across the highway, rendering it impassable. Gorges are sometimes cut through the roadbed making it hazardous to attempt fording. At such times the community becomes temporarily stranded.

The existence of this problem has long been recognized. Its seriousness, however, has been greatly amplified in recent years by a combination of circumstances. Predominant among these is the tremendously accelerated development of the area for residential occupancy. Until comparatively recently, Kihei was a sparsely settled rural district where the primary occupations were fishing and gardening. Prior to the Second World War access was gained by way of a rutted dirt thoroughfare which had evolved from horse-and-buggy roads and old Hawaiian trails. The population of the island was largely confined to the windward and central portions of Maui and isolation of the Kihei homesteads was taken for granted. Electrification and adequate water systems, together with highway improvements have been accomplished in relatively recent years.

These improvements have opened the door to the current influx of beach dwellers and the potential large-scale settlement of one of the most attractive resort areas under the American flag. Right now, the Matson Navigation Co. has active plans for a multi-million-dollar tourist establishment. Mainland and Canadian investors are being attracted in steadily increasing numbers to the purchase of homesites. Commercial and industrial possibilities are being thoroughly explored by various interests.

Kihei has been termed the "Waikiki of Maui." Honolulu is becoming overcrowded. Last winter many visitors could not be accommodated at its beach hotels. The beaches of Kihei are surpassingly beautiful and are commonly viewed as the most natural area for expansion of Hawaii's tourist industry. Now, at the threshold of the jet age, the present rapid growth of Kihei promises to become phenominal in the years just ahead. This section can no longer stand to be isolated from such vital necessities as police and fire protection, emergency medical facilities and hospitals, or the continuous use of public utilities.

Many of the residents of Kihei are public servants and other key personnel whose services in time of disaster or emergency are most essential. They include the assistant police chief, the county pathologist, and other doctors, nurses, fire fighters, airline workers, the chief engineer of Maui Electric Co., and numerous county, Territorial, and Federal Government employees. Additionally there are school principals and teachers as well as a general cross section of executive personnel important to the administration of Maui buisness and commerce.

Few places in the world are more dependent upon air transportation than the Hawaiian Islands. Planes must fly regardless of weather conditions. To make this possible, the Federal Government has established a number of Civil Aeronautics Administration facilities here. Some of the most important of these are located on Maui. A number of the airways-operations specialists and technical personnel responsible for operating the Maui air-traffic-communications station, the Kahului Airport control tower and the various electronics navigational aids, reside in Kihei. Moreover, the Maui low frequency radio range station is situated at Makena which is served by the Kihei road. During the type of instrument flying conditions in which floods occur, it is imperative that this navigational facility be kept in continuous operation.

Since maintenance work must be performed by electronics technicians headquartered in central Maui, flooding of the Kihei road can cause a serious delay in reaching the station. On one such occasion, in the predawn darkness of December 21, 1955, a CAA technician was dispatched to Makena on a trouble call. Driving a new Government panel truck he proceeded through heavy rain as far as the Kihei store. At that point, floodwaters coursing across the road killed the motor. The technician walked 4 miles through waters, sometimes knee deep, to summon aid. When police arrived at the scene, the truck had been swept into the ocean, completely submerged in water and sand; the truck was eventually salvaged. It brought a $60 return on an investment of perhaps $3,000. Nevertheless, such a loss would be inconsequential as compared to the possible outcome if an aircraft were in need of a navigational aid which could not be kept in service. The Federal Government has a large investment in the Makena range station as well as the Bureau of Standards ionosphere station at Kihei. The importance of maintaining continuous access to these installations cannot be overemphasized.

In the wake of a Kihei flood, another menacing factor becomes evident. Stagnant water, warmed by the tropical sun, becomes fecund with mosquito larvae. Besides the inevitable annoyance from swarms of the voracious insects, the possibility of pestilence becomes a grave concern.

Action to obtain relief is very briefly summarized as follows: On February 16, 1956, a public hearing was conducted by Governor King. It was attended by the Territorial public-works superintendent, the chairman of the county board of supervisors and other county officials, the county engineer, and approximately 100 Kihei residents. The fact was established by the county chairman that, in addition to the serious hazards and inconveniences involved, the people of Kihei had suffered a monetary loss of between $25,000 and $40,000 in the most recent flood, several weeks previously. A number of Kihei residents testified substantially to the effect outlined in the foregoing paragraphs. Additionally, the Kihei school PTA president stated that the accumulation of water during flood periods had resulted in closing the school on various occasions. The Governor gave his assurance that he would do everything possible to alleviate the problem and had delegated the Territorial public-works superintendent to conduct an on-the-spot investigation for remedial action. On the previous afternoon, the public-works superintendent had toured the stricken area

for a period of 3 hours. Based on his findings, he stated that the matter would be taken up immediately with the United States Corps of Engineers to determine what aid could be secured. During the hearing he also suggested petitioning the Delegate to Congress to have the Engineers make a survey. The Maui County chairman reported a resolution from the board of supervisors instructing the county engineer to gather all pertinent data for presentation to the United States Corps of Engineers. He suggested, too, that a committee be selected to gather information and pictures for work in conjunction with the county engineer's office. On the following day, Governor King toured the Kihei area before returning to Honolulu.

On February 20, 1956, a Kihei flood-control meeting convened in the board of supervisors' chambers. It was attended by the Chief of the Engineering Division, San Francisco District, Corps of Engineers, United States Army, his assistant, the chairman and members of the Maui County Board of Supervisors, various other county officials and members of the Kihei Community Association Flood Control Committee. The United States engineering chief outlined alternatives and procedures for obtaining Federal aid. He suggested that a resolution be drawn up and given to the Delegate to Congress. He explained that the resolution could then be presented to Congress to be included in the next omnibus bill. It was decided that a petition would be drawn up by the county attorney to be signed by Kihei residents and other interested persons. The petition was subsequently prepared, signed by the chairman of the Maui County Board of Supervisors, Governor King, residents of Kihei, and other interested parties. It was then forwarded to Mrs. Betty Farrington, Delegate to Congress.

Under date of January 11, 1957, a narrative report on the current status of civil-works projects in the county of Maui was transmitted to the Maui County engineer by the Corps of Engineers, United States Army, San Francisco District. Pertaining to Kihei flood control, it reads as follows:

KIHEI FLOOD CONTROL

Relative to a flood-control project at Kihei, your office has accomplished some preliminary work and has prepared drawings and control maps showing the tributary water courses in the affected areas. The data indicate that there are three low sections of the Kihei Beach Road where inundation by flood runoff adversely affects vehicular traffic and accessibility. Raising road grades and constructing drainage facilities would alleviate the problem to some extent. In the event a flood-control project is authorized, consideration will be given to effect improvements as a small Federal-financed flood-control project. Recent congressional action has further amended section 212 which had previously amended section 205 of the Flood Control Act approved 30 June 1948, which increased the monetary limitation from $150,000 to $400,000 for expenditure on any single project during any one fiscal year.

Maui has discovered the beauty and pleasure of homeownership on its leeward shores. Hawaii is awakening to the latent resources of Kihei as a mecca for mainland vacationers. Congressional authorization of a flood-control project for this area will be a sound investment in the future of a community which is certainly destined to become a tropical American paradise. I have a map and some pictures that I want to be made as part of the record.

Mr. KLUCZYNSKI. Please hand the reporter a copy for the record. Does this complete your statement, Mr. Laesch?

(Map M is in committee files.)

Mr. LAESCH. That's all I have.

Mr. KLUCZYNSKI. Any questions to Mr. Laesch?

Mr. DOOLEY. No question.

Mr. BYRNE. No question.

Mr. KLUCZYNSKI. No further questions. Thank you, Mr. Laesch. That completes the hearing on flood control. Now we will go into Federal buildings and our witness will be Mr. J. T. Correa.

TESTIMONY OF TOSHI ANZAI, REPRESENTING J. T. CORREA, PORTMASTER OF WAILUKU, MAUI

Mr. ANZAI. Mr. Chairman and members of the Public Works Committee, I am Toshi Anzai. Mr. Correa is away on business and I am going to speak in his behalf. On October 9, 1957, during his one-man inspection tour of Maui, the Honorable Frank J. Becker, your colleague and member of your House Public Works Committee, said of our and your Federal building in Maui County: "It is a disgrace to the United States Government." A few days later on October 12, 1957, Mr. Floyd Williams on his inspection tour of our Wailuku Post Office said: "The post office in Wailuku is in shameful condition. I congratulate Postmaster J. T. Correa and his staff. I don't know how they've managed to get their work done in these cramped, delapidated quarters." Mr. Williams is a member of the engineering and research staff of the Deputy Assistant Postmaster Geenral's Office in Washington, D. C.

These two statements made by responsible officials from our National Capitol are descriptive of your Wailuku Post Office and your Federal building on Maui. The Wailuku Post Office has occupied the present premises on Main Street in Wailuku since 1920. It comprises an area of 1,782 square feet. It serves a population of approximately 9,000 people embracing a geographic area of Wailuku, Waikapu, Waihee, Waiehu, Kapuna, and Maalaea. Its 1956 gross annual postal receipts totaled $96,391.24. Though adequate 37 years ago, today the post office has outgrown its effectiveness. It is inadequate in floor space and lighting, poor in ventilation and without loading and unloading facilities. The building was never intended for a post office, hence, from the very outset the layout was not adaptable to efficient optimum operation of postal services.

As far back as 1938, attempts were made to rectify this situation. In 1939, the United States Government took cognizance of the situation and purchased 21,820 square feet of land in fee simple at the corner of Wells and High Streets in Wailuku for the construction of a combined Federal-post office building. Since that date repeated efforts have been made by the Territorial legislature, the county board of supervisors, the Maui Chamber of Commerce and other groups toward obtaining approval for a project study and the necessary appropriation. In March 1956, a project study for the proposed combined Federal-post office building was made by the General Services Administration. The Public Works Committees of both the House and Senate approved the appropriation of an estimated $757,000 for the combined Federal-post office building to be constructed under the Lease Purchase Act of 1953. In February of this year, we learned through the press that plans for our long sought

Federal-post office building were indefinitely suspended because of "inflationary pressures in the construction industry." Subsequently, we learned of the termination of the lease purchase program. Months later, we were advised that construction of approved projects could proceed if the new cost estimate did not exceed the original estimate by 7 percent. In June of this year, the cost estimate had risen by $103,000 to $860,000, an increase of 13.6 percent, almost twice the 7 percent allowance. On July 3, 1957, a revised limitation of cost was submitted by General Services Administration to the Bureau of the Budget. We have not had any official communication since.

Wailuku is the capital of the tri-isles of Maui, Molokai, and Lanai, which comprise the county of Maui. It is the civic center of Maui. The present Federal Building houses the Farmers' Home Administration of the United States Department of Agriculture, the United States Army recruiting office, the United States Marine Corps, the Social Security Administration, and the Bureau of Internal Revenue. It is within one block of the circuit court, the district court, the Territorial Department of Public Welfare, police department, county offices, Maui County Library, Territorial Tax Office and the Territorial Board of Health. A new building on the present site of the Federal Building could house under one roof not only the Wailuku post office and the Federal agencies now located in the Federal Building but the following other Federal agencies: Soil Conservation Service, agricultural conservation program, the United States Army Reserve Headquarters, Selective Service headquarters and the Agricultural Extension Service (a semi-Federal, semi-Territorial agency). These agencies are presently scattered in Wailuku and Kahului.

Our present Federal building, which is termite infested, dilapidated, and beyond repair is a meaningless drain of the taxpayers' dollars. The danger of someone someday being hurt on the premises is imminent. It is a fire hazard. These offices maintain valuable documents and records. To quote Mr. Floyd Williams, the Wailuku post office is "cramped and dilapidated" and in a "shameful condition"; and to quote Representative Frank J. Becker, "It is a disgrace to the United States Government."

The Federal Government already owns in fee simple 21,820 square feet of land at the corner of Wells and High Streets (tax key 3–4–13–14). We respectfully request full and effective use of this Government property. We respectfully request a new Federal-post office building, well ventilated, well lit, and above all adequate to house our Federal Government agencies.

Mr. KLUCZYNSKI. Thank you, Mr. Anzai. You are not only speaking for a new post office, but you are speaking for a new Federal building that will house all the agencies you mentioned; is that right?

Mr. ANZAI. That's right. Our present Federal building is so termite-eaten and in very bad condition to repair it would cost more than a new building.

Mr. KLUCZYNSKI. How much space do you now have in the post office building?

Mr. ANZAI. I would say about 1,700 square feet.

Mr. KLUCZYNSKI. How much business do you do?

Mr. ANZAI. I would say approximately $96,000.

Mr. KLUCZYNSKI. You say Congressman Becker was here?

Mr. ANZAI. Yes, sir. He was here.

Mr. KLUCZYNSKI. He is an outstanding man in our Public Works Committee. When we get back to Congress we will naturally talk it over with him.

Mr. DOOLEY. Has any consideration been given for a redevelopment plan out here in your city Capital?

Mr. BYRNE. A bond redevelopment plan?

Mr. ANZAI. As a member of the Planning Commission on Maui, on the cogent issue of redevelopment money from the Federal Government for the master planning of the island, a master plan of the island of Maui is under consideration in Honolulu.

Mr. KLUCZYNSKI. Thank you. Is there any one here who would like to say anything? I would like to remind you again, that the record will be open for about 3 weeks and if there is anything you want to insert into the record, to contact Colonel Hatch, district engineer of the United States Army Engineer District, Honolulu. I wish to thank you all for being here to give us the opportunity to listen to your problems first hand. You all have been so cooperative. Being no further questions, the Chair recognizes Congressman Hull.

Mr. HULL. Mr. Chairman, Mr. Mayor, and friends of Maui, on behalf of the Public Works Committee, I want to apologize with deep regrets for causing the inconvenience of our late arrival to this beautiful island of Maui. You know, as we leave each of these islands, we leave with an ache in our hearts because we meet so many wonderful people. We feel quite sure that when we leave your beautiful islands it will be with regret, and yet, we will leave with a deep sense of knowing you people better. We are most appreciative of the warm hospitality shown this committee. Being with you, learning your problems, we can better serve you, and when we get back to Washington we shall discuss your problems with the whole committee. You may be thousands of miles away from the mainland, but we shall consider your problems as being in our own districts. I represent 17 counties and I hardly get around to them. I want to express to Colonel Hatch our deepest appreciation for all the information given to us on the various projects and for briefing us as we went along. Mr. Chairman, it is an amazing thing, how the colonel has such a tremendous knowledge of all the problems and the projects in these islands. I want to thank Mr. Wachter, also, for the fine work he has done. As to all of you good people, it is certainly a pleasure to be here with you. Aloha and God bless each one of you.

Mr. KLUCZYNSKI. Thank you, Congressman Hull. There being no further business, the meeting is adjourned.

WAIAKOA, MAUI,
November 19, 1957.

Subject: Public hearing, Committee on Public Works, House of Representatives of the United States.

THE AREA ENGINEER,
Corps of Engineers, United States Army,
Fort Armstrong, Honolulu, T. H.

DEAR SIR: I understand that a statement was made on behalf of a harbor project on the island of Maui, by a person representing himself as being authorized to speak for Maui charter boat operators.

Being, to the best of my knowledge, the only licensed charter boat operator regularly operating on Maui, I request that it be entered into the record of the subject hearing that I gave no one authority to speak on my behalf.

My business is located at Lahaina Harbor and my feeling is that a study of harbor conditions and possibilities would be justified there.

Yours very truly,

GORDON M. WILKINSON.

MAUI CHAMBER OF COMMERCE,
Wailuku, Maui, T. H., November 25, 1957.

Hon. JOHN C. KLUCZYNSKI,
House Public Works Committee,
Congress of the United States, Washington, D. C.

DEAR REPRESENTATIVE KLUCZYNSKI: This is in reply to your inquiry directed at former Senator Toshi Ansai, who spoke on our behalf on the need of the combined Federal office post office building in Wailuku, Maui, at the recent hearing held on our island.

According to Postmaster J. T. Correa, of the Wailuku post office, the gross postal receipts in 1947 (10 years ago) totaled $78,628.38.

We respectfully request that this information be added to the testimony presented by Mr. Ansai.

Respectfully yours,

MAUI CHAMBER OF COMMERCE,
FUMIE SHIMAZU, *Executive Secretary.*

PUBLIC WORKS PROJECTS OF HAWAII

MONDAY, NOVEMBER 18, 1957

HOUSE OF REPRESENTATIVES,
COMMITTEE ON PUBLIC WORKS,
SUBCOMMITTEE ON ROADS,
Lihue, Kauai, T. H.

The subcommittee met, pursuant to notice at 10 a. m., in the county building, Hon. John C. Kluczynski, presiding.

Mr. KLUCZYNSKI. The meeting will come to order.

As you know, we are a committee of the House of Representatives, Committee on Public Works. We are here to listen to your testimonies, your statements, and your problems.

For the record, I am John Kluczynski, of Illinois, acting chairman, and I would like to introduce the members of this committee: Congressman Russell Mack, of the State of Washington; Congressman W. R. Hull, Jr., State of Missouri; Congressman Hubert Scudder, of California; and Congressman Emmet Byrne of Illinois. We also have with us, counsel of our committee, Mr. Robert McConnell and Mr. Marshall Gerber.

I want to say that the hearings we have had here in the islands have been very receptive. We have had everything explained to us in a brief manner and we know that your hearing will be conducted in the same manner. We have enjoyed the witnesses and I am sure that the witnesses have enjoyed the committee.

We will start with our first witness, Colonel Hatch, district engineer of the United States Army Engineer District, Honolulu.

TESTIMONY OF LT. COL. McGLACHLIN HATCH, DISTRICT ENGINEER, UNITED STATES ARMY ENGINEER DISTRICT, HONOLULU—Resumed

Lieutenant Colonel HATCH. Mr. Chairman and distinguished members of the Public Works Committee, I will run through our projects and orientate you on the island of Kauai.

The island is 33 miles long and 25 miles wide. We are here [indicating on the map of Kauai] in the town of Lihue, a short distance from Lihue Airport. We are close to Nawiliwili Harbor.

On the island of Kauai, we have two deep-water harbors. In addition to Nawiliwili Harbor, we have Port Allen which we will inspect today. There are three rivers which create the principal flood problems: Wailua River, Hanapepe River, and Waimea River. We will go to Wailua River and proceed over the Federal-aid highway in this direction [indicating on the map]. I hope we have time to go up to look at an outstanding view of the Grand Canyon of Waimea.

Going back I will discuss the harbor at Nawiliwili. Nawiliwili is a good harbor. The entrance channel is 40 feet deep. The breakwater is subjected to storm-wave action. At the present time, the breakwater is in a state of serious damage. The project has been completed except for a small amount of cleanup dredging in the channel. The harbor was enlarged in this area [indicating on the map]. As I mentioned, the project is virtually completed and for that reason it may not be of interest to the committee. However, individual members may be interested in the need for appropriation for the repair of this breakwater.

Mr. MACK. What is the depth and width of the harbor

Lieutenant Colonel HATCH. The entrance channel is 600 feet wide and 40 feet deep. The distance this way, I believe, is 2,000 feet and the distance this way is 1,980 feet [indicating on the map].

Mr. MACK. Colonel Hatch, is there any danger of the breakwater falling in and causing the channel to be filled in?

Lieutenant Colonel HATCH. Yes. The breakwater has suffered damage out on the end. It may cause the breakwater to fall in this direction [indicating direction of adjacent channel].

Mr. MACK. Is there a project pending to repair the breakwater?

Lieutenant Colonel HATCH. Yes, sir. We have a certain amount of money for the repair, but we are waiting to let the contract in the spring. We plan to complete it in the next fiscal year.

Mr. HULL. Colonel Hatch, can you give me the approximate estimated cost of repairs?

Lieutenant Colonel HATCH. Our last estimated cost was $800,000.

Mr. HULL. That is for the repairing of the breakwater?

Lieutenant Colonel HATCH. Yes, sir. The recent storm damage increases that amount to approximately $1 million.

Mr. HULL. The contract is a type that cannot be completed in 1 fiscal year?

Lieutenant Colonel HATCH. It is slow work and it will have to extend over more than 1 fiscal year.

Mr. HULL. You always amaze me, Colonel, with all your knowledge.

Mr. SCUDDER. What is the tonnage of the harbor?

Lieutenant Colonel HATCH. In 1956, approximately 100,000 tons in transpacific imports and 340,000 tons in exports.

The second harbor is Port Allen. Port Allen is a small deep-water harbor and the existing project includes a breakwater. The problem is that the harbor is subject to serious wave action and surge. This has two adverse effects: beach erosion along the shore and surge up along the pier. At times ships are unable to tie up at the pier.

Mr. MACK. This is considered a finished project?

Lieutenant Colonel HATCH. Yes, sir. This is a completed project. I believe there are people here who will propose a second breakwater to reduce the surge.

I don't know if there is anyone here today to testify on small-boat harbors. The study of small-boat harbors was stopped in 1951. The study is 20 percent complete. The four sites considered for possible development for small-boat harbors on this island are Kukuiula, Hanalei, Nualolo, and Waimea.

The next item is highways. I understand that this problem will not be presented at this hearing since it has been thoroughly discussed previously.

Mr. KLUCZYNSKI. Mr. Wachter, do you have anything to add on highways at this time?

Mr. WACHTER. No, there is nothing to say at this time. All that could be said was already mentioned.

Lieutenant Colonel HATCH. There is no problem on public buildings.

On flood control, we have the Wailua River, Hanapepe River, and Waimea River.

The study of Wailua River is of preliminary examination scope. We have not at this time developed a plan that we may show you. This is one study for which we have the money and in the spring we hope to conduct a preliminary examination.

This [indicating on the map] is the Hanapepe River, a river that flows down from the mountains. There is a serious flood problem area here [indicating on the map]. The project has been authorized. The engineering design provides a wall along this side of the river to prevent flooding the town of Hanapepe.

The last flood-control problem is the Waimea River. There are two major problems here, one is the fact that the levee is insufficient to withstand a flood of large magnitude. Secondly, flooding occurs beyond the end of the existing levee. This project is under study, a survey is being completed. It is quite possible that the report will be submitted to your committee during the next session of Congress.

Mr. KLUCZYNSKI. Does that complete your statement, Colonel Hatch?

Lieutenant Colonel HATCH. Yes, sir.

Mr. KLUCZYNSKI. Thank you, Colonel. At this time I would like to introduce General Davis, division engineer of the United States Army Engineer Division, Pacific Ocean.

(General Davis acknowledged by standing.)

Mr. KLUCZYNSKI. Our next witness is Mr. L. T. Cannon. Mr. Cannon, take the witness stand and give your name to the reporter and state whom you represent.

TESTIMONY OF L. T. CANNON, REPRESENTING KAUAI CHAMBER OF COMMERCE

Mr. CANNON. Honorable Chairman and members of the Public Works Committee, my name is L. T. Cannon and I represent the Kauai Chamber of Commerce.

I have two resolutions to present to you. Due to the limited time I will make a brief résumé.

The first resolution requests additional funds for repairing the Nawiliwili breakwater. Whereas, the island of Kauai is almost solely dependent on its key port of Nawiliwili for the shipment of its sugar, pineapple, and other products and the importation of petroleum, fertilizers, and other necessary freight, and food products, and be it resolved that the Congressional Committee on Public Works be respectfully requested to favorably consider approval of additional moneys to the extent deemed necessary by competent authorities, in addition to that now on hand, to effect the repairs to the main breakwater of the port of Nawiliwili on the island of Kauai, Territory of Hawaii, so that the economic lifeline of the island and its population and businesses will not be cut or hampered and that these repairs be done as

expeditiously as possible so that still further damage to this breakwater will not occur, making costs of repairs still greater. Thank you, gentlemen.

Mr. KLUCZYNSKI. Just a moment, Mr. Cannon. Mr. Mack, do you wish to ask any questions?

Mr. MACK. I have no questions.

Mr. HULL. No questions.

Mr. SCUDDER. Are you asking for matching money for highways? Are you getting 50–50 on present highways?

Mr. CANNON. This resolution is on fuel tax. I will read that part to you. Whereas the Congress of the United States of America enacted in its Federal Highway Act of 1956 a $50 billion program for allocation to the various States for Federal-aid highway construction. There was not 1 cent earmarked to the island of Kauai or the Territory of Hawaii.

Mr. SCUDDER. You mean on the Interstate Highway System?

Mr. CANNON. That's right.

Mr. SCUDDER. It just doesn't qualify or conform to the interstate category for a transportation system which was set up in order to facilitate the transporting of troops and material across the country. Your county does get 50 percent matching money from the Federal Government for any primary or secondary highways.

I think your request for money from the interstate highway fund is entirely out of line. The only way to get any money out of that fund is through a rebate from the Federal Government so that an additional highway program might be developed in the islands.

Mr. CANNON. Whereas Hawaii's Delegate to Congress, the Honorable John A. Burns, has proposed an amendment to the Federal Highway Act of 1956, providing for Hawaii to receive its share of Federal-aid highway funds; and whereas the Territory of Hawaii, including its municipality, the county of Kauai, pays in Federal taxes amounts greater than nine of the States now receiving Federal-aid highway moneys; and whereas Hawaii, as an integral part of these United States, should be considered for a portion of Federal funds for its highway-construction program.

Mr. SCUDDER. That is a poor statement to make. The highway crossing Nevada has no relationship to the amount paid in by the State and the amount received by California, which receives about the lowest percentage of taxes paid in. They have to build a highway to get troops across the country from the Pacific Ocean to the Atlantic Ocean and from the northern border to the southern border.

I was with the committee from the very start of that program. It was a national military highway set up to effect the movement of troops and supplies in the event we are attacked. These highways will be used by the military to speed up transportation. I think you have a right and have a claim to the taxes to assist in the development of an interisland highway and ferry system and I think that amendments could be developed to return a portion of the taxes to the islands.

Mr. CANNON. Be it further resolved that should it be impossible to include the Territory of Hawaii and the county of Kauai in the allocation of Federal-aid moneys for highway construction, that at least the rebate of fuel taxes paid by the Territory of Hawaii and the county of Kauai be approved to correct this inequity, and be it still further

resolved that copies of this resolution be presented to : United States congressional Committee on Public Works; Hon. John A. Burns, Hawaii's Delegate to Congress; Hon. William F. Quinn, Governor, Territory of Hawaii; Mr. William M. Wachter, superintendent of public works, Territory of Hawaii; and Mr. Anthony C. Baptiste, Jr., chairman and executive officer, county of Kauai.

Mr. KLUCZYNSKI. Mr. Cannon, we will insert the two resolutions and the letter to Hon. Frank Becker into the record. (Entered into the record and recorded as Kauai exhibit A, Kauai exhibit B, and Kauai exhibit C.)

Mr. BYRNE. Is there any military development on the island at this time?

Mr. CANNON. There is a small contingent at Mana Barking Sands. We have made a request to establish military installations here. We have corresponded with the military commanders in Honolulu, but have received no definite answer.

Mr. KLUCZYNSKI. No further questions to Mr. Cannon? Thank you, Mr. Cannon, for your statement.

Our next witness will be Mr. Jack Moir. Please give the reporter your name and whom you represent.

TESTIMONY OF JACK MOIR, REPRESENTING CITIZENS OF PORT ALLEN

Mr. MOIR. Gentlemen, my name is Jack Moir. I represent a group of citizens and am speaking in behalf of Port Allen, for the needed continued maintenance and operation of the harbor of Port Allen.

I'll just skim through this briefly. However, I first want to emphasize that the repair of the Nawiliwili breakwater is our first priority. The island of Kauai is most dependent, economically, upon the sugar industry which ships its product, raw sugar, in bulk via an extensive installation at the port of Nawiliwili. The breakwater at Nawiliwili has been damaged by tidal action and, if not repaired shortly, may become so further damaged that the port may become inoperative. If this should happen, it would be disastrous to the island. We on Kauai all agree that repairing the breakwater at Nawiliwili has highest priority, and your approval of the necessary additional funds to effect these repairs is earnestly solicited.

This brief presentation is being made by a few citizens representing a large number of private individuals, small and large businesses, and community groups who reside on the western half of Kauai and to whom the harbor of Port Allen is vital. Our purpose is merely to remind you that we have been most appreciative of the funds allocated in the past for the minor dredging and maintenance of this harbor of Port Allen, and that we are vitally interested in seeing that normal maintenance funds for this harbor are continued as required. Periodic dredging has been the only maintenance needed. The United States Corps of Engineers has done a good job on looking after Port Allen and can attest that it has incurred little in the way of maintenance problems. It is a good source of revenue to the Territorial harbor board.

The breakwater and pier at Port Allen are solidly constructed and have never been damaged through storms or tidal action. The pier

can handle two large vessels plus smaller ones at the same time. The port handles freighters, tankers, interisland barges, military vessels, and is also the largest anchorage for Kauai's fishing vessels. With the exception of several days each year of severe southerly storms, the port is safe, smooth, and easy for pilots. As far as can be recalled, in over 20 years only 1 vessel has pulled out of Port Allen because of a storm and that was due to a cautious skipper; at the same time, a second vessel remained to unload cargo, with no harm resulting.

Excluding the outward shipment of bulk sugar, the tonnages that the two ports, Nawiliwili and Port Allen, handle are almost identical, Port Allen having 45 percent of the total. Neither harbor is large enough at present to handle all inward and outward tonnage for the entire island. At times during this year both harbors were jammed with both overseas vessels and interisland barges. Tonnages, 1956 (from harbor board reports). Interisland: Nawiliwili inward, 30,592; Port Allen inward, 18,239; Nawiliwili outward, 13,648; Port Allen outward, 15,369; total for Nawiliwili, 44,240; and total for Port Allen, 33,608. Overseas: Nawiliwili inward, 74,255; Port Allen inward, 71,989; Nawiliwili outward, 78,369; Port Allen outward, 55,645; total for Nawiliwili, 152,624; and total for Port Allen, 127,634. Bulk sugar, 235,304. About one-third of the island's pineapple product, a majority of the outgoing sugar molasses, and much of the island's incoming petroleum products are handled through Port Allen. Five of Kauai's eight sugar plantations are located on West Kauai. The Standard Oil Company of California, Kauai's largest petroleum products firm, has its main tank farm at Port Allen, a quarter-million-dollar investment exclusive of land. Our two largest wholesale lumber and building materials firms are located within a few minutes from the port. Our fertilizer company also has a large tank installation at Port Allen for incoming aquaammonia which sugar plantations use extensively. Half our ranches and our largest dairy are situated in West Kauai.

The investment in facilities around Port Allen by private industry is very extensive, several million dollars. The harbor, pier, and breakwater represent an investment of an additional several million dollars of Federal, Territorial, and private funds. In the event Port Allen were to be closed for some unknown or unforeseeable reason, a survey of West Kauai industries indicated that the annual additional hauling costs which would be incurred if all inward and outward freight were to be routed through Nawiliwili would conservatively total: Outward, $81,000 and inward, $132,000.

All branches of the military service use Port Allen. Bonham Airbase at Mana on the western extreme of Kauai is owned by the Air Force but is currently being used by the Navy for guided-missile work. Supplies for this base come through Port Allen. Military LST vacation excursions call at Port Allen due to its central island location and the landing ramp at that port. The Marine Brigade on Oahu has held extensive maneuvers on West Kauai the last 2 years and has used Port Allen for shipment of supplies and heavy equipment. The continued concentration of military might on Oahu, the United States key for the whole Pacific and Asiatic areas, may become a source of concern in this atomic era. Some decentralization to outer islands, especially Kauai with its long airstrips at Bonham, may well fit into

the future plans of military leaders. Port Allen, and the need for this second port, would be even more vital under such circumstances.

Port Allen can adequately handle the larger freighters and tankers of the future. It is entirely conceivable that with expanding tourist trade, passenger liners such as the *Leilani* which has started making outer island calls, may come to Port Allen. Port Allen offers the best area for port expansion and a second breakwater would permit this. A large area of idle land, Burns Field, lies adjacent to the port and is an invitation to future industry. The major land areas for potential agricultural and industrial expansion are situated in West Kauai.

I would like to have these four exhibits made part of the record. Exhibit A (entered into the record and recorded as Kauai exhibit D) is a presentation in behalf of the West Kauai community groups; exhibit B (entered into the record and recorded as Kauai exhibit E) is a presentation in behalf of our small merchants; exhibit C (entered into the record and recorded as Kauai exhibit F) is an aerial photo of Port Allen; and exhibit D (entered into the record and recorded as Kauai exhibit G) is a map of Kauai showing Port Allen's relationship to Kauai's industry and geography.

(The material is as follows:)

KAUAI PLANTERS' ASSOCIATION,
Lihue, Kauai, T. H., October 19, 1957.

Hon. FRANK J. BECKER,
House Public Works Committee,
Congress of the United States, Washington, D. C.

DEAR MR. BECKER: During your recent visit to the island of Kauai the seriousness of the condition of the Nawiliwili Harbor breakwater was brought to your attention. We appreciate your inclusion of this project in your very busy schedule while you were here.

If there is any data that you would like to have on this project to augment that which has already been furnished you, we would be most happy to prepare, or try to secure, the same for you. We cannot emphasize too strongly the noticeable hampering of loading and unloading operations within the harbor which has already occurred. This being the only shipping port equipped to handle the shipment of sugar, our major export along with pines, any cessation would result in a major blow to the economy of all the people on the island. The urgency of early repairs is so very necessary for the safety of both merchant and Government vessels using the harbor.

We earnestly seek your assistance and influence in obtaining the required appropriation to have these repairs done as soon as possible.

Sincerely and respectfully,

M. J. BLACK,
President, Kauai Planters' Association.

RESOLUTION REQUESTING ADDITIONAL FUNDS FOR REPAIRING THE NAWILIWILI BREAKWATER

Whereas the island of Kauai is almost solely dependent on its key port of Nawiliwili for the shipment of its sugar, pineapple, and other products and the import of petroleum, fertilizers, and other necessary freight, and food products; and

Whereas the people of Kauai recognize their economic dependence upon the continuing and uninterrupted use of the port of Nawiliwili and in particular the business firms of Kauai recognize the importance of this port to their continuing operations; and

Whereas recent heavy seas have damaged the outer breakwater of this port of Nawiliwili which is a vital factor or facility in making this port usable and without which the port will be useless and also unless repaired shortly will

become even further damaged through future tidal action and become even more costly to repair; and

Whereas the need for this repair of said breakwater has been noted by proper authorities and moneys are now available to the extent of $255,000, but said moneys have now become insufficient because of the further damage caused in the interim; Now, therefore, be it

Resolved, That the Congressional Committee on Public Works be respectfully requested to favorably consider approval of additional moneys to the extent deemed necessary by competent authorities, in addition to that now on hand, to effect the repairs to the main breakwater of the port of Nawiliwili on the island of Kauai, T. H., so that the economic lifeline of the island and its population and businesses will not be cut or hampered and that these repairs be done as expeditiously as possible so that still further damage to this breakwater will not occur making costs of repairs still greater; and be it further

Resolved, That copies of this resolution be given to: United States Congressional Committee on Public Works; Hon. William F. Quinn, Governor of Hawaii; Hon. John A. Burns, Delegate to Congress; McGlachlin Hatch, lieutenant colonel, district engineer, United States Corps of Engineers; W. M. Wachter, Territorial harbor board; Anthony C. Baptiste, Jr., chairman and executive officer, county of Kauai; George Over, Jr., president, Propeller Club, Port of Honolulu, and Matson Navigation Co.

Adopted unanimously this 7th day of October 1957, by the board of directors of the Kauai Chamber of Commerce at a regular meeting held at Lihue, Kauai, T. H.

L. T. CANNON, *President, Kauai Chamber of Commerce.*

RESOLUTION REQUESTING FEDERAL-AID FUNDS FOR HIGHWAY CONSTRUCTION ON THE ISLAND OF KAUAI

Whereas on the Island of Kauai, T. H., plans have been prepared for 17 miles of major highways in its Belt Road System which is in dire need of immediate construction; and

Whereas said highway construction is urgently necessary for the economic and military development of the island, but work thereon is being withheld due to the lack of necessary construction funds therefor; and

Whereas the Congress of the United States of America enacted in its Federal Highway Act of 1956, a $50 billion program for allocation to the various States for Federal-aid highway construction; and

Whereas not one cent of this allocation has been earmarked for the Island of Kauai, or for the Territory of Hawaii; and

Whereas Hawaii's Delegate to Congress, the Honorable John A. Burns, has proposed an amendment to the Federal Highway Act of 1956, providing for Hawaii to receive its share of Federal-aid highway funds; and

Whereas the Territory of Hawaii, including its municipality, the county of Kauai, pays in Federal taxes, amounts greater than nine of the States now receiving Federal-aid highway moneys; and

Whereas Hawaii, as an integral part of these United States should be considered for a portion of Federal funds for its highway construction program: Now, therefore, be it

Resolved, That the congressional Committee on Public Works, presently on an inspection tour of the Territory of Hawaii, November 9 to 20, 1957, be and is hereby respectfully requested to favorably consider Hawaii's needs with respect to Federal-aid moneys for highway construction; and be it further

Resolved, That should it be impossible to include the Territory of Hawaii and the county of Kauai in the allocation of Federal-aid moneys for highway construction, that at least the rebate of fuel taxes paid by the Territory of Hawaii and the county of Kauai be approved to correct this inequity, and be it still further

Resolved, That copies of this resolution be presented to: United States congressional Committee on Public Works; Hon. John A. Burns, Hawaii's Delegate to Congress; Hon. William F. Quinn, Governor, Territory of Hawaii; W. M. Wachter, superintendent of public works, Territory of Hawaii; Anthony C. Baptiste, Jr., chairman and executive officer, county of Kauai.

L. T. CANNON,
President, Kauai Chamber of Commerce.

NOVEMBER 18, 1957.

EXHIBIT A

STATEMENT BY REPRESENTATIVE OF COMMUNITY ORGANIZATIONS LOCATED IN WEST KAUAI

Our West Kauai Community Associations, closely dependent on the continued expansion of our Kauai economical growth, respectfully petitions that, through the favorable report of your Public Works Committee, you recommend to the Congress of the United States that:

1. Continued appropriations of maintenance funds be made by the Congress for the operation and maintenance of the deepwater harbor, wharf, and facilities now available at Port Allen, Kauai.

2. That the necessary authoritative machinery be instituted by the United States Engineers Department to determine the feasibility and cost of putting in a second breakwater at Port Allen, thereby adding to its safety as an all-weather port, and also providing the added requirements for the development of a small-boat harbor, this small-boat harbor development being a project recognized by our Territorial legislature which, at its 1957 session, appropriated $65,000 for its development.

In praying for the above aid and assistance from our Congress, your petitioners submit the importance that the continued development and maintenance of this Kauai port means to our people. Many members of our families find employment in the establishments that benefit through the use of this deepwater facility as a nearby port through which they receive most of their imported freight.

Numbered among these establishments, besides our small merchants and small farmers, we have 5 sugar plantation companies; 2 wholesale merchandise firms; 2 lumber yards; 2 planing mills; 1 pineapple cannery; a milk dairy; and an all-island electric power company.

All of these firms hire the large majority of our West Kauai citizenry. As importers of all the supplies that make their being in business possible, they are almost entirely dependent on the deepwater facilities that are offered at Port Allen. To haul their imported supplies from the northside port at Nawiliwili, would add considerably to the cost of these imported articles, a cost that must necessarily be added to the price that our buying public must pay.

In addition to the firms above noted, we have, at the extreme northwestern end of our island road, the Bonham Airfield, a federally owned and controlled airport. This facility is the only airport presently large enough on our island for the suitable development of controlled air-missile experiments. Such experiments are now being conducted from this airfield by qualified airmen of the United States Navy.

The value of this airfield to our Nation cannot be questioned, and here again, Port Allen is the nearest and most feasible harbor facility through which the needs of this Navy project can be supplied.

We respectfully pray that your committee give favorable consideration to our petition for the continuation of Federal interest and appropriations for the expansion of Port Allen Harbor.

EXHIBIT B

STATEMENT BY REPRESENTATIVE OF SMALL BUSINESSES LOCATED IN WEST KAUAI

The continued maintenance and development of the harbor at Port Allen is a matter of vital concern to the small-business community of the West Kauai, which embraces the geographical area between Koloa and Mana.

Although this portion of the population in this area has no formal organization through which it can voice its views, personal contact with individuals and firms has revealed a unanimous desire for the maintenance and development of Port Allen.

The economy of the whole island, as well as that of this area, for many years, has been based primarily upon sugarcane growing. Further expansion of this industry is limited. The best hope for development in future years is in the development of what must be considered the small businesses of today.

As land prices increase on Oahu, many of the light industries which are developing in Honolulu will disperse to the outer islands. Farming for the Oahu

market, both civilian and military, as well as for export, is already showing this trend. Shipment of fresh tropical fruits and off-season vegetables to the mainland United States will require and be encouraged by larger and faster ocean vessels. A port in this area to accommodate such vessels will be an important supplement to any development of power and irrigation water in the Kokee area.

The climate in this area is ideal for tourist development. Former Governor King has voiced his conviction that this area will show tremendous development in this field. Port Allen is the only harbor that can accommodate such ships as the *Leilani*. In this respect, development of Port Allen will be of benefit to the whole island.

In short, the resources of land, climate, and population are present in this area. Faciilties for their development must be maintained and improved.

Since the building of the present breakwater at Port Allen, a changing of the currents has created a serious beach erosion problem in Hanapepe. Persons who are familiar with these currents are of the opinion that a second breakwater will also help to solve this problem, together with that of the badly needed small-boat harbor for pleasure and fishing craft, for which the Territorial government has already made available $65,000.

A summary of the volume of business in this area during 1956 as compiled by the Territorial tax office is attached hereto. The above presentation is made in behalf of the businesses included in the compilation.

Volume of business transacted from Koloa to Mana for the year 1956 by various business activities, total of 601 taxpayers

1. Retailing	$7,770,413
2. Producing	1,075,044
3. Wholesaling	4,053,674
4. Manufacturing	434,347
5. Services	1,030,874
6. Professional services	234,148
7. Contracting	752,307
8. Amusement	249,941
Total	15,600,748

NOTE.—Does not include Honolulu firms, sugar, pineapple, or Standard Oil Co.

(Maps F and G are in committee files.)

Mr. KLUCZYNSKI. Without any objection, it is so ordered.

Mr. MOIR. In conclusion, we appreciate your committee's interest in coming to Kauai to hear our problems. We urge that necessary funds be made available to repair the Nawiliwili breakwater and also ask that you continue necessary maintenance funds for our other harbor, Port Allen, so that the island can continue its flexibility of shipping and will not have to worry about incoming and outgoing cargoes being stopped for any reason. Being isolated as we are, this is critical to the livelihood of all of us on Kauai.

Mr. KLUCZYNSKI. Thank you very much, Mr. Moir, for your fine statement.

Mr. MOIR. Mr. Chairman, at this time I would like to introduce Mr. A. Q. Marcallino who would like to give a brief presentation for the community organization of West Kauai so that you may be able to see the need for Port Allen from their standpoint.

Mr. KLUCZYNSKI. Please give your name and whom you represent to the reporter, Mr. Marcallino.

TESTIMONY OF A. Q. MARCALLINO, REPRESENTING WEST KAUAI

Mr. MARCALLINO. My name is A. Q. Marcallino and I am a retired businessman. At one time I worked on the other side of the island, West Kauai, which I am happy to represent. We have called upon everyone who wanted to make themselves locally heard.

It is my pleasure, Mr. Chairman and members of the committee, to be present and to have the opportunity to make a short statement on behalf of the little fellow. This is true for I represent the West Kauai Community Association for the betterment of the little people. The West Kauai Community Association depends upon the economic growth of Kauai. For that reason, we petition that you give a favorable recommendation to the Congress of the United States: (1) to continue appropriations for the maintenance of deepwater harbors; (2) that necessary authority be given to the United States engineers to study the feasibility of a second breakwater at Port Allen and adding to the safety of that port; and (3) investigation and development of a small boat harbor. A small boat harbor was authorized by the Territorial legislature, which in the 1957 session appropriated $65,000 for this development. In praying for this aid and assistance from Congress for the maintenance of the harbor, the people will benefit through the use of deepwater facilities and will receive more imported freight.

Mr. KLUCZYNSKI. Does that complete your statement?

Mr. MARCALLINO. Yes, and I want to thank you.

Mr. KLUCZYNSKI. How long have you been retired?

Mr. MARCALLINO. I was retired in 1948. Do you want to know my age? I am 76 years of age.

Mr. KLUCZYNSKI. You were born in the islands?

Mr. MARCALLINO. Yes, sir. I was born here in the islands.

Mr. KLUCZYNSKI. You are doing a fine job for the people of this island and I hope that we can help you. Just a moment please, some other members of the committee may wish to ask you a few questions. Mr. Mack?

Mr. MACK. I concur with your statement.

Mr. KLUCZYNSKI. Mr. Hull?

Mr. HULL. Mr. Chairman, you seem to be doing all right.

Mr. SCUDDER. What is the population of Kauai?

Mr. MARCALLINO. We probably have about 29,000 now.

Mr. HULL. I would like to ask Mr. Wachter a question. Do we have in the records the amount of small pleasure boats in the Territory?

Mr. WACHTER. We have about 8,100 boats in the Territory that have been registered with the Coast Guard. It is in the record.

Mr. HULL. Thank you, Mr. Wachter.

Mr. KLUCZYNSKI. I want you to know that the committee thanks you for the wonderful work you are doing for the "Garden Island." It is called the "Garden Island" because of men like you.

Mr. MARCALLINO. Thank you, sir.

Mr. KLUCZYNSKI. Our next witness is Jack Bertrand.

TESTIMONY OF CAPT. JACK BERTRAND—Resumed

Captain BERTRAND. Mr. Chairman and members of the committee, I represent the Matson Navigation Co. and am also a representative of Kauai. I would like to say that I have traveled around the islands with this committee and that this is the hardest working committee I have met. They understand the situation we are faced with, and I am sure that their visit here will result in some benefit to Kauai.

I can't let this pass without mentioning for the record that the

people of Kauai are very happy to have two fine gentlemen such as Colonel Hatch and General Davis in the islands.

I want it to be known that I am representing the Chamber of Commerce of Hawaii, the Propeller Club of the United States, port of Honolulu, and the Matson Navigation Co. I want the Matson Navigation Co. to be on record as being in full accordance with the projects in line with the harbors. We are interested in anything that makes a harbor safer for ships coming in and departing. We are one of the principal users of the harbors.

Mr. KLUCZYNSKI. Thank you, Captain Bertrand. Our next witness will be Senator Noboru Miyake. Give the reporter your name and whom you represent.

TESTIMONY OF SENATOR NOBORU MIYAKE, MEMBER OF TERRITORIAL SENATE

Senator MIYAKE. Mr. Chairman and members of the congressional Public Works Committee, my name is Noboru Miyake, member of the Territorial senate and I am representing the public in general. I am going to talk on the overall program of flood control, reclamation, beach erosion, and public roads.

Before I get into the subject of flood control, I would like to give you a quick review of our island, economically, geographically, historically and physically. Geographically, Kauai is the oldest and northernmost island in the Hawaiian group. It is the fourth largest island in size, having an area of 555 square miles. The population was around 35,000 in 1940 and gradually declined to 29,000 in 1957; largely through mechanization and no new industrial development. Historically, Kauai, the "Garden Island," is unique in itself. Mount Waialeale, Kaui, is known to be the wettest spot on earth; average rainfall for the last 38 years was 471 inches per year. The highest rainfall in any one year was 624 inches in 1948.

Captain Cook first landed in Kauai in 1778. In 1815, the Russians built a Russian fort on the east bank of the Waimea River with a determination to conquer the island.

The first sugar plantation was located at Koloa, Kauai, in 1837. Physically, we have 8 sugar plantations producing approximately 25 percent of all the sugar produced in Hawaii. We have three pineapple canneries, producing large quantities of canned pineapple and juice. We have hotel and transportation facilities to accommodate 40,000 tourists a year. We have two deepwater harbors, Nawiliwili on the east side of the island and Port Allen on the west and a fairly good road system. Because of the heavy rainfall on Kauai in the past, as stated previously, we have eight flowing rivers that provide billions of gallons of water for our agricultural enterprises. At the same time, it creates quite a problem of flash floods during the winter months at four major rivers, Waimea, Hanapepe, Wailua, and Hanalei. The Territorial legislature has expended over a million dollars for flood control in the past and appropriated another $465,000 this year for flood control projects in Wailua and Hanalei. Property damage from floods exceeds $2 million over a period of years; nearly a million dollars was lost during the flood of 1949 and 1950 in Waimea and Hanapepe.

Some of these projects have been under consideration by the United States engineers since 1939; however, no appropriations for the construction of flood walls have been made by Congress to date. It is my understanding that the Hanapepe flood-control project has been approved by Congress for construction, pending appropriation. The Waimea flood-control program is now being prepared to be reported on by the United States engineers for your consideration by the next Congress, beginning January 1958.

In conclusion, we would like to present to you for consideration these basic needs for Federal aid to improve our economy: (1) Request for additional appropriation to repair the breakwater at Nawiliwili Harbor; (2) request for consideration for a study of a second breakwater at Port Allen; (3) we need more Federal aid for our primary and secondary road systems and also for the construction of a secondary Federal aid road system around the island; (4) we need Federal aid for flood control and for the construction of irrigation dams for the diversion of floodwaters, for the expansion of our agricultural enterprises; and (5) that the Territory of Hawaii be included in the Interstate Defense Highway Act, and the legislature be authorized to use the money to subsidize an interisland ferry system as part of our defense highway system. It will be a tremendous asset to our Military Establishment in Hawaii, as well as to our civilian population. The legislature has made considerable study on this project and it was found not feasible without a subsidy. That is something I want to leave with you, gentlemen, and I hope that you will give serious consideration to our problems which mean a lot to the Territory, not only to the civilian population but for military purposes also. I am sure that you will get answers to some of these problems.

Mr. KLUCZYNSKI. Thank you, Senator.

Mr. MACK. Excellent statement, Senator. You gave us a comprehensive understanding of the problems of the island and have been very helpful to the committee.

Mr. BYRNE. Senator, when talking about flood control, you mentioned the amount of damages that had been done in the last flood. What property damages are included?

Senator MIYAKE. As you go along the riverbeds running alongside the town, the property damage includes stores, merchandise, and agricultural enterprises.

Mr. BYRNE. The figure you covered is property damage?

Senator MIYAKE. Loss of merchandise.

Mr. BYRNE. Buildings were damaged? Is that right?

Senator MIYAKE. That is right.

Mr. BYRNE. The amount of lost income for the merchants?

Senator MIYAKE. It does not include that. The American Red Cross spent over $100,000 just to take care of the people temporarily.

Mr. BYRNE. In other words, merchants who were put out of business 30, 60, or 90 days are not included in the flood loss?

Senator MIYAKE. That's right. I lost $123,000 in 1939 by flood.

Mr. BYRNE. Was property included?

Senator MIYAKE. No, just merchandise. I almost went broke.

Mr. KLUCZYNSKI. Thank you, Senator, for your wonderful statement. On this Waimea River, our next witness is Masao Seto.

TESTIMONY OF MASAO SETO, REPRESENTING WAIMEA REPUBLICAN PRECINCT CLUB

Mr. SETO. Mr. Chairman and members of the Public Works Committee, I am Masao Seto, and I represent the Waimea Republican Precinct Club.

The Waimea Republican Precinct Club has gone on record favoring the construction of a dam to help control floodwaters of the Waimea River. It is believed that this dam will serve three basic purposes: (1) Partial control of floodwaters which originate from the upper Kokee area, regarded as the wettest spot on earth with rainfalls of as much as 450 inches a year. Prior to the construction in 1955 of a retaining wall along the Waimea River in the town of Waimea, the people of Waimea suffered heavy losses from floods. Even with the retaining wall today, there are always threats of floods during the rainy seasons. The control of water upstream will certainly add assurance for the safety of the residents of Waimea. While the primary purpose of the dam would be for irrigation, it would have a dual purpose of assisting in flood control; (2) furnish waters for irrigation for approximately 4,600 acres of West Kauai, which have been classed as some of Hawaii's finest for agricultural purposes. More acreage could be developed with more water-storage facilities. The rainfall over this area is not enough to permit farming except with irrigation; (3) creation of new recreational area, fishing, boating, and water skiing in an area to which tourists are already attracted because of scenic beauty.

Kauai's main two avenues of economic development lie in agriculture and tourism. The area which will be affected appears on the map which was prepared for this committee. It is also possible, following further engineering study, that such a dam may be a source of hydroelectric power to harness some of the large quantities of water which go east to the ocean. This would save importation of expensive fuel oil for power generation.

The purpose of the brief presentation is to ask the assistance of your Public Works Committee in favorably considering funds for this Kokee Dam project on a self-paying basis should further study by local authorities prove this project feasible. I want this statement on flood control for Waimea incorporated into the records, and also the attached map.

Mr. KLUCZYNSKI. Please hand a copy to the reporter to be made part of the record.

(Material mentioned is as follows:)

STATEMENT OF MASAO SETO ON FLOOD CONTROL FOR WAIMEA

The Waimea Republican Precinct Club has gone on record favoring the construction of a dam to help control floodwaters of the Waimea River. It is believed that this dam will serve three basic purposes:

1. Partial control of floodwaters which originate from the upper Kokee area, regarded as the wettest spot on earth with rainfalls of as much as 450 inches a year. Prior to the construction in 1955 of a retaining wall along the Waimea River in the town of Waimea, the people of Waimea suffered heavy losses from floods. Even with the retaining wall today, there are always threats of floods during the rainy seasons. The control of water upstream will certainly add assurance for the safety of the residents of Waimea. While a primary purpose of the dam would be for irrigation, it would have a dual purpose of assisting in flood control.

2. Furnish waters for irrigation for approximately 4,600 acres of West Kauai, which have been classed as some of Hawaii's finest for agricultural purposes. More acreage could be developed with more water storage facilities. The rainfall over this area is not enough to permit farming except with irrigation.

3. Creation of a new recreational area, involving fishing, boating, and water skiing in an area to which tourists are already attracted because of scenic beauty. Kauai's main two avenues of economic development lie in agriculture and tourism.

The area which will be affected appears on the map which is hereto attached.

It is also possible, following further engineering study, that such a dam may be a source of hydroelectric power to harness some of the large quantities of water which go to waste to the ocean. This would save importation of expensive fuel oil for power generation.

The purpose of this brief presentation is to ask the assistance of your Public Works Committee in favorably considering funds for this Kokee Dam project on a self-paying basis should further study by local authorities prove this project feasible.

(Map J will be found in committee files.)

Mr. SETO. That's all I have to say, and if there are any questions, I'll be glad to answer them.

Mr. KLUCZYNSKI. Any questions to Mr. Seto? Thank you, Mr. Seto.

Our next witness will be Mr. Jack Mizuha. Give your name to the reporter and whom you represent.

TESTIMONY OF JACK MIZUHA, ATTORNEY FOR ISLAND HOLIDAY, LTD.

Mr. MAZUHA. Mr. Chairman and members of the Committee on Public Works. My name is Jack Mizuha, I am an attorney and I represent Island Holiday, Ltd.

I want to take time out to say that I am a former Army officer from World War II. Speaking on behalf of interstate roads mentioned by Congressman Scudder, being an attorney, I read the reports that are out on the floor of Congress. The legislation was enacted to speed the movement of troops and supplies in support of the national-defense system, if I recall correctly. We will take you along a road today, remote as it may be. When attacked, areas all over the United States must be cleared for the movement of troops.

With respect to the feeling on the part of Congressman Scudder on rebates, I believe the history on taxation is that rebates were never intended for certain groups or certain areas of the United States. We like to pay our just share to be used on highways in California, Maine, Florida, New Mexico, or any other State of the Union. We want to pay our fair share of taxes, I believe, for the good of the United States.

The situation in Hawaii should be reexamined; the role Hawaii plays in national defense is very important even though we are hundreds of miles away from San Francisco. Radar stations in the Pacific are guarding the Western United States. For that reason we would need a system of roadways, not only on Oahu, but on all the islands. The movement of troops depends on good highways; that is the thing that the War Department and the Armed Forces in the United States must have to move troops to meet any attack from any sector of our country. We must move troops on highways, a great number of troops at one time. With the nuclear weapons of today,

the concentration of Armed Forces in one location is hazardous and the dispersement of troops to different islands such as Kauai, Maui, and Hawaii should be realized.

Mr. SCUDDER. The Congress of the United States could amend that law in the next session of Congress returning to Hawaii their share for national defense.

Mr. KLUCZYNSKI. The time has run out for both of you gentlemen. We have some other problems we want to look over. Mr. Cannon, you want to be heard on public roads?

Mr. CANNON. No, sir.

Mr. KLUCZYNSKI. You have already completed your statement. Is there anyone else here that wants to speak to the committee?

Mr. MASAKI. I do.

Mr. KLUCZYNSKI. Give your name to the reporter and whom you represent.

Mr. MASAKI. Mr. Chairman and Members of Congress, my name is Koichi Masaki and I represent the Commercial Fishing Association.

Since this committee is from Congress on small-boat harbors, I would appreciate it if this committee would give consideration to the commercial fishing boats for a small-craft harbor. All of these years we have been neglected and we hope that when this committee goes back to Congress it will give us consideration for a small-boat harbor on Kauai. At the present time we don't have a small-craft harbor at Port Allen.

Mr. KLUCZYNSKI. I appreciate your statement and when we get back to Washington, it will take quite a while to report all the testimonies we received from all of you people here. I want to thank each and every one of you for being so cooperative.

Mr. BYRNE. How many years have you been fishing?

Mr. MASAKI. About 43 years.

Mr. BYRNE. How is business? There is a big smile on his face so business must be good.

Mr. MASAKI. Just to show you how good business is, we have only eight full-time fishermen. About 40 fishermen gave up this business.

Mr. SCUDDER. I think this is one way we can improve the economy of this area, by assisting commercial fishing.

Mr. MASAKI. At the present time, we are importing a large portion of tuna from Japan.

Mr. KLUCZYNSKI. Thank you, Mr. Masaki, and I want to thank every one of you. The record will be open for about 3 weeks; if anyone has any further statements for the record, kindly get in touch with Colonel Hatch of the Army engineers. The Chair recognizes Mr. Mack.

Mr. MACK. Mr. Chairman and friends of Hawaii. This completes the informal public hearings that this powerful and important committee of the House of Representatives has held in the islands. I know that I express the sentiments of every member of this committee in saying we have never before met, in all our experiences, a more friendly and hospitable people than those of these islands. Your hospitality is only equal to the tremendous rainfall here, the greatest on this earth, in this beautiful island, and we are happy to be here. We are especially grateful to Colonel Hatch, district engineer, for his excellent presentations, day after day. This committee will go home

fully informed of the problems of the islands and report your needs to our associates of the Congress of the United States. We will use our best efforts to be helpful to the communities of these islands. We understand your need for better harbors, highways, flood control, small-boat harbors, and public buildings. I am sure the Congress of the United States, because of our visit here, will be in a better position to provide the kind of results that you desire. Again, every member of this committee is grateful for the hospitality shown us and the information we have been provided on our visit to your beautiful island.

Mr. KLUCZYNSKI. Thank you, Mr. Mack. The meeting is adjourned.

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